



**B & A**  
**ARITHMETIC**

W. R. GATEHOUSE  
**BOOK 3**  
CASSELL AND COMPANY

FOSTER'S SCHOOL.  
WELLING, KENT.

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# "B" SUMS

*to begin with*

## INTRODUCTION

*THESE* books are written by a practising teacher and are the fruits of some years' experience in a Junior School. They give plenty of sums, carefully planned to suit slow and fast pupils.

The sums are well graded, with the object of taking pupils step by step through all the difficulties of each rule. This will be found to facilitate working the class in sections, a procedure which is almost always desirable but never easy, especially when classes are large.

Slow pupils will work at the first or "B" part of the book until the rule is thoroughly mastered. *Faster pupils, guided by the footnotes, will "go through the door" to the "A" part of the book which contains tests and harder sums in the same rule.* In this way the teacher can easily arrange for each section to work at its appropriate level, and further instruction can be given to a group of pupils while the rest are working with their books.

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*"As the Author is engaged under the London County Council, it is necessary to state that the Council is in no way responsible for anything which is contained in this book."*

## A

1. £36 14s. 9½d. + £7 16s. 8½d. + £5 16s. 2½d. + £4.
2. £96 13s. 3¾d. + £18 10s. 8½d. + 16s. 4½d. + 7s. 11¼d.
3. £13 + ½ guinea + £67 14s. 7¾d. + £29 15s. 8½d.
4. £80 6s. 8d. + 1 guinea + £16 13s. 10¼d. + 19s. 11½d.
5. 10¾d. + £76 13s. 2½d. + £29 16s. 8½d. + £83.
6. £59 12s. 3¾d. + £17 11s. 6½d. + 16s. 8d. + £30.
7. £84 9s. 7¼d. + £23 9s. 2½d. + 16s. 3½d. + 18s. 9d.
8. £16 15s. 2d. + £71 11s. 11½d. + 15s. 10¾d. + 9½d.
9. £127 13s. 3½d. + £126 12s. 2d. + 14s. 8¼d. + £16.
10. £100 + 18s. 9d. + £127 + 16s.
11. £159 11s. 8½d. + £100 13s. 4d. + £96 7s. 2d. + 4½d.
12. £200 + 1½ guineas + £69 13s. 11½d. + £137 15s.

*B*

	£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.		£	s.	d.
1.	152	16	11½	—	27	7	2		6.	126	15	3½	—	7	0	0			
2.	129	13	2¼	—	2	18	3¾		7.	216	0	0¼	—	27	2	11½			
3.	100	0	0	—		16	7½		8.	100	0	0½	—		16	7¼			
4.	136	14	0	—	2	17	8¼		9.	300	0	0	—			10½			
5.	200	0	0	—	19	6	7¼		10.	200	0	0	—		1	11½			

## C

1. $1372 \times 12$	6. $1263 \times 123$	11. $5672 \times 39$
2. $1406 \times 27$	7. $2105 \times 107$	12. $2793 \times 86$
3. $2637 \times 36$	8. $1650 \times 200$	13. $1060 \times 752$
4. $1070 \times 28$	9. $3728 \times 109$	14. $2008 \times 493$
5. $2965 \times 11$	10. $6235 \times 208$	15. $1068 \times 371$

*D*

1.  $1269 \div 12$
2.  $7402 \div 37$
3.  $1368 \div 16$
4.  $1403 \div 28$
5.  $1697 \div 22$
6.  $1262 \div 14$
7.  $4801 \div 24$
8.  $93627 \div 52$
9.  $10632 \div 16$
10.  $28134 \div 28$
11.  $12121 \div 601$
12.  $64131 \div 163$
13.  $31627 \div 392$
14.  $10326 \div 471$
15.  $12126 \div 382$

## A

## Bring

	£	s.	d.	
I.	11	5	0	to pence
2.	10	6	0½	to halfpence
3.	13	10	6¾	to farthings
4.	16	5	3	to pence
5.	17	6	0	to farthings
6.	16	17	8	to fourpences
7.	13	18	6	to sixpences
8.	12	16	0	to florins
9.	15	17	6	to threepences
10.	20	6	8	to twopences
11.	19	6	8	to fourpences
12.	20	15	0	to half-crowns
13.	17	16	8½	to halfpence
14.	14	13	10	to twopences
15.	15	13	8	to fourpences

Bring to £ s. d.

16.	1362	pence
17.	1036	halfpence
18.	8131	farthings
19.	1000	fourpences
20.	1000	threepences
21.	4000	half-crowns
22.	1041	sixpences
23.	8121	threepences
24.	2016	florins
25.	7235	three-halfpences
26.	1265	sixpences
27.	2136	half-crowns
28.	1035	three-halfpences
29.	1261	fourpences
30.	10913	pence

## B

	£	s.	d.		£	s.	d.		£	s.	d.						
1.	23	16	2	×	18	9.	15	8 $\frac{3}{4}$	×	32	17.	11	11 $\frac{1}{2}$	×	27		
2.	18	15	3 $\frac{1}{4}$	×	15	10.	9	6	×	19	18.	29	10	10 $\frac{1}{4}$	×	54	
3.	26	1	7 $\frac{1}{2}$	×	12	11.	25	16	4 $\frac{3}{4}$	×	12	19.	46	8	9 $\frac{1}{2}$	×	9
4.	15	10	9 $\frac{1}{4}$	×	24	12.	36	13	11 $\frac{1}{2}$	×	11	20.	73	16	7 $\frac{3}{4}$	×	78
5.		7	11 $\frac{1}{2}$	×	29	13.	43	12	10 $\frac{3}{4}$	×	49	21.	13	19	6 $\frac{1}{4}$	×	59
6.		9	10 $\frac{3}{4}$	×	36	14.	34	8	9 $\frac{1}{2}$	×	53	22.	13	10 $\frac{1}{2}$	×	65	
7.		11	6 $\frac{1}{2}$	×	28	15.	72	17	8 $\frac{1}{4}$	×	47	23.	29	18	11 $\frac{1}{4}$	×	37
8.		12	7 $\frac{1}{4}$	×	16	16.	6	9	6 $\frac{3}{4}$	×	65	24.	56	12	9 $\frac{3}{4}$	×	216

## C

	£	s.	d.		£	s.	d.		£	s.	d.
1.	126	13	$2\frac{1}{2} \div 17$	9.	328	4	$8 \div 16$	17.	9	15	$9\frac{1}{2} \div 12$
2.	436	12	$9\frac{3}{4} \div 12$	10.	321	4	$1\frac{1}{2} \div 18$	18.	6	13	$11\frac{1}{4} \div 47$
3.	151	16	$2\frac{1}{2} \div 13$	11.	7	0	$0 \div 9$	19.	566	10	$8 \div 56$
4.	481	12	$9\frac{1}{4} \div 24$	12.	558	0	$7\frac{1}{2} \div 35$	20.	200	0	$0 \div 45$
5.	486	13	$6 \div 36$	13.	459	1	$1\frac{1}{2} \div 27$	21.	304	11	$2\frac{1}{2} \div 29$
6.	439	18	$0\frac{3}{4} \div 27$	14.	421	17	$7\frac{1}{2} \div 42$	22.	117	13	$2\frac{3}{4} \div 19$
7.	422	19	$3 \div 18$	15.	386	12	$1\frac{1}{2} \div 29$	23.	129	0	$0 \div 18$
8.	298	9	$9\frac{1}{4} \div 29$	16.	343	10	$9 \div 39$	24.	4	13	$10 \div 37$

A

1.  $13 \times 11$  =
2.  $27 + 16 + 162$  =
3.  $100 - 65$  =
4.  $8118 \div 9$  =
5.  $\frac{1}{2}$  of  $11\frac{1}{2}$ d. =
6. 3 gross =
7. 2 lb. = oz.
8. 1 hr. = sec.
9. 23 half-crowns =
10. 121d. =

B

1. Write in figures fifteen thousand and six.
2. What must be added to 47 to make 60?
3. Phyllis had 2s. 4d. John had twice as much. How much had they together?
4. 2 dozen at  $2\frac{1}{2}$ d. each.
5. Find the cost of 1 egg at 2s. 9d. a dozen.
6. Find the product of 23 and 100.
7. Divide 1 guinea by three.
8.  $1\frac{1}{2}$  lb. at 1s. 8d. per lb.

## PROBLEMS

1. How often can I take 29 from 3016?
2. From the sum of £26 13s.  $4\frac{1}{2}$ d., £100 10s.  $2\frac{1}{2}$ d. and 15s.  $6\frac{3}{4}$ d. take £29 13s.  $8\frac{1}{2}$ d.
3. Find  $\frac{1}{29}$  of £136 10s.  $4\frac{1}{2}$ d.
4. Find the difference between two thousand one hundred and six, and forty-five.
5. What is the remainder when 4128 is divided by 16?
6. Take £1 6s. 3d. from £5 and multiply your answer by 12.
7. How many lb. in 3264 oz.?
8. How many hr. in 12960 min.?
9. What is the weekly wage of a man who earns £104 4s. 4d. per year?
10. How many farthings are there in £9 6s. 4d.?
11. Make out a bill for  $1\frac{1}{2}$  lb. sugar at 5d. per lb., 3 lemons at  $3\frac{1}{2}$ d. each and 1 dozen eggs at  $1\frac{1}{2}$ d. each.
12. From 2 ft. 7 in. take 13 in.
13. What change shall I have from 5 guineas after spending 2s.  $11\frac{1}{2}$ d., 1 guinea and 4s. 6d.?
14. Find the cost of 24 tables at £4 11s. 6d. each.
15. 1645 marbles are shared equally among 35 boys. How many will each receive?
16. Add together 6 in., 1 ft. 3 in. and  $\frac{1}{2}$  yd.

A

1.  $120 \div 8$  =
2.  $750 \div 30$  =
3.  $34 \times 20$  =
4.  $1s. 10d. \times 3$  =
5.  $4 \text{ oz.} \times 8$  =
6.  $3d. \times 28$  =
7.  $4d. \times 14$  =
8.  $2s. 7\frac{1}{2}d. + 1s. 8d.$  =
9.  $1s. 10\frac{1}{2}d. \div 9$  =
10.  $3\frac{1}{4}d. \times 7$  =

B

1. Take 10d. from the sum of 1s. 6d. and 1s. 2d.
2. Find the cost of 1 goose if 4 geese cost £13.
3. Add 10 sixpences to 35 shillings.
4. How many florins are there in 38s.?
5. Divide  $2\frac{1}{2}$  doz. by 6.
6. How much must be added to half a guinea to make 14s.?
7. Divide 1 gross by 72.

## PROBLEMS

1. If 9 boys earn £1 14s. 9d. each, how much do they earn altogether?
2. Eighteen hundred toy soldiers were packed into 150 boxes. How many soldiers were in each box?
3. A casemaker made 19 boxes for £4 19s. 9d. How much was that for each box?
4. When I divided a number by 23, the answer was 16. What was the number?
5. I bought 5 lb. of apples at  $4\frac{1}{2}$ d. per lb. and 3 lb. of pears at  $6\frac{1}{2}$ d. per lb. I gave a boy 3d. for carrying them. How much did it cost me altogether?
6. 375 children paid 2d. each. How much is that altogether?
7. Two thousand four hundred matches were packed into 4 dozen boxes. How many matches were in each box?
8. A boy saved half a crown a week for 1 year, and then bought a train set for £5 12s. 6d. How much had he left?
9. Tom earns £2 3s. 6d. per week, which is 4s. 9d. more than his sister. What does his sister earn?
10. In a cinema 48 people pay 2s. 6d. each, and 30 people pay 1s. 6d. each. How much do they pay altogether?
11. Divide the difference between fourteen and one thousand by twenty-nine.
12. Five gross of articles are tied up into bundles, 15 articles in each bundle. How many bundles?
13. A boy earns £2 6s. 8d. a week. How much will he earn in a year?

A

1.  $15 \times 11$  =
2.  $\frac{1}{2}$  hr. = min.
3. 137d. =
4.  $1s. 5\frac{1}{2}d. \times 6$  =
5.  $2s. 11d. \div 4$  =
6. 8 oz. = lb.
7.  $\frac{1}{2}$  yd. = in.
8.  $4d. \times 29$  =
9.  $27 \times 500$  =
10.  $\frac{1}{2}$  of  $1s. 11d.$  =

B

1. Find the cost of 27 fourpenny cakes.
2. 3 doz. at  $1\frac{3}{4}d.$  each.
3. What change shall I have from half a crown after spending  $10\frac{1}{2}d.$  and  $2\frac{1}{2}d.$ ?
4. If milk is 6d. qt. find the cost of 1 pt.
5. If I save 5s. 0d. each week how much shall I save in 24 weeks?
6. Find the cost of 32 cakes at  $1\frac{1}{2}d.$  each.
7. Find the cost of 32 books at 2s. 6d. each.

## PROBLEMS

1. In what year was a woman born if she was 28 years old in 1932?
2. A man works 7 hr. 30 min. each day. How many hr. will he work in 6 days?
3. Divide  $\frac{1}{8}$  of £13 4s. into 4 equal parts.
4. Find the product of two thousand, and one hundred and eight.
5. Find the cost of 1237 three-halfpenny stamps.
6. Take 17s. 6d. from £24 and reduce your answer to half-crowns.
7. How many seconds are there in 17 hours?
8. Find the sum of  $2\frac{1}{2}$  guineas, 4 half-crowns, 18 sixpences and 10 florins.
9. Find  $\frac{3}{4}$  of £42 1s. 9d.
10. Multiply £26 17s.  $2\frac{1}{2}d.$  by 24 and add £10 2s.  $4\frac{1}{2}d.$  to your answer.
11. Divide 13062 by 14.
12. What will 1000 penny balloons cost?
13. Make out a bill for: 2 lb. of lard at 1s. 2d. per lb.,  $1\frac{1}{2}$  lb. of cake at 10d. per lb. and 7 oz. of biscuits at 1s. 4d. per lb.
14. If one quarter of a sum of money is £29 16s.  $4\frac{1}{2}d.$  what is the sum?
15. From two thousand, take the sum of one hundred and twenty-four, and three hundred and seventeen.
16. After buying 24 dresses a man found he had £10 left out of £79. What was the price of each dress?
17. Find a boy's wages for a year if he earns £3 6s. 11d. per week.

A

1.  $26 + 14 - 17$  =
2.  $19 \times 11$  =
3.  $2s. 11d. \div 4$  =
4.  $4\frac{1}{2}$  dozen =
5.  $1\frac{1}{2}$  lb. at 11d. per lb. =
6.  $7260 \div 60$  =
7.  $\frac{1}{8}$  =
8.  $\frac{3}{4}$  =
9.  $217 \times 600$  =
10.  $\frac{1}{8}$  shilling =

B

1. A man saves 6s. 8d. per week. How much will he save in 6 weeks?
2. 11 oz. at 1s. 4d. per lb. =
3. Change 7s.  $7\frac{1}{2}d.$  to three-halfpences.
4. Write in figures ten thousand and one.
5. Oranges are 2 for 1d. How many can I buy with half a crown?
6. Find the product of 18 and 10 and take 100 from your answer.
7. 1 gross at 1d. each?

## PROBLEMS

1. Multiply five gross by 103.
2. From the sum of 2963 and 1072 take their difference.
3. How many yards of material at 2s. 6d. per yd. can I buy with 15 guineas?
4. A boiler uses up 2700 logs. Find the cost of the logs at 19s. 6d. per 100.
5. How often can I subtract 28 from 8624?
6. Take  $\frac{1}{8}$  of £1 13s. 9d. from  $\frac{1}{8}$  of  $1\frac{1}{2}$  guineas.
7. Find the cost of 1268 cakes at 3d. each and the same number at 1d. each.
8. Divide twelve thousand one hundred and sixty-three by eighty-eight.
9. Find  $\frac{7}{10}$  of £126 17s. 6d.
10. John saved 1d. per week and Mary  $\frac{1}{2}d.$  per week. How many weeks did they take to save 18s. 9d. between them?
11. How many yards are there in 7560 inches?
12. Add together £29 16s.  $8\frac{1}{2}d.$ ,  $\frac{1}{2}$  guinea, and £13 16s.  $2\frac{1}{4}d.$ , and take your answer from £100.
13. Multiply 1063 by 3 gross.
14. Find the sum of  $2\frac{1}{2}$  dozen, 4 gross, half a hundred and  $2\frac{1}{2}$  score.
15. One man weighs 9 st. 2 lb. Find the weight of 8 similar men.
16.  $\frac{1}{8}$  shilling + £2 15s.  $8\frac{1}{4}d.$  - £10 - £7 6s.  $4\frac{1}{4}d.$

## A

1. 4 ch. 19 yd. 2 ft. + 2 ch. 12 yd. 1 ft. + 5 ch. 13 yd. 2 ft.
2. 24 ml. 7 fur. 9 ch. + 13 ml. 6 fur. 4 ch. + 19 ml. 2 fur. 5 ch.
3. 3 fur. 9 ch. + 16 yd. + 4 ch. 2 yd. + 1 fur. 13 yd.
4. 13 yd. 2 ft. + 4 ch. 15 yd. 1 ft. + 14 yd. 2 ft.
5. 13 bush. 3 pk. 1 gall. + 6 bush. 0 pk. + 4 bush. 1 pk. 1 gall.
6. 1 qt. 1 pt. + 12 gall. 3 qt. + 2 gall. 2 qt. 1 pt. + 2 gall. 1 pt.
7. 3 pk. 1 gall. + 1 gall. 3 qt. + 2 pk. 3 qt. + 2 pk. 1 gall.
8. 9 bush. 3 pk. + 2 pk. 1 gall. + 1 bush. 3 pk. 1 gall.
9. 6 ton 16 cwt. 3 qr. + 17 ton 4 cwt. 1 qr. + 24 ton 13 cwt.
10. 9 cwt. 3 qr. + 2 qr. 1 st. + 13 cwt. 1 st. + 2 cwt. 2 qr.
11. 3 qr. 12 oz. + 12 lb. 6 oz. + 1 qr. 9 oz. + 13 lb.
12. 13 cwt. 108 lb. + 1 ton 6 cwt. + 46 lb.
13. 15 yr. 13 wk. 6 dy. + 27 yr. 42 wk. 4 dy. + 18 yr. 16 wk. 3 dy.
14. 14 min. 15 sec. + 13 hr. 24 min. + 15 hr. 15 sec. + 23 min. 24 sec.

## B

## MENTAL SUMS

- |   |                              |
|---|------------------------------|
| 1. 19 ch. 17 yd. — 6 ch. 8 yd. 1 ft.      | 1. $\frac{3}{4}$ lb. = oz.   |
| 2. 13 yd. 1 ft. — 2 yd. 1 ft. 7 in.       | 2. 27 in. = yd.              |
| 3. 12 ml. 2 fur. 4 ch. — 6 fur. 8 ch.     | 3. $\frac{1}{2}$ mile = yd.  |
| 4. 60 fur. — 1 fur. 1 ch. 1 yd.           | 4. $\frac{1}{2}$ ton = lb.   |
| 5. 13 gall. 1 pt. — 3 qt. 1 pt.           | 5. $\frac{1}{4}$ mile = yd.  |
| 6. 14 bush. 3 pk. — 6 bush. 3 pk. 1 gall. | 6. $\frac{1}{2}$ gall. = pt. |
| 7. 15 qt. 1 pt. — 1 pt. 3 gill.           | 7. 15 cwt. = ton             |
| 8. 26 qr. — 17 bush. 3 pk.                | 8. $\frac{1}{2}$ cwt. = lb.  |
| 9. 21 cwt. — 108 lb.                      | 9. $\frac{3}{4}$ hr. = min.  |
| 10. 40 ton — 23 qr. 1 st.                 | 10. 1 cwt. = lb.             |
| 11. 13 st. 12 lb. — 1 st. 2 lb. 6 oz.     | 11. 1 ft. 6 in. = yd.        |
| 12. 36 qr. — 23 lb. 13 oz.                | 12. 9 in. = ft.              |
| 13. 13 wk. 6 dy. — 3 dy. 14 hr.           | 13. 9 in. = yd.              |
| 14. 56 yr. — 113 dy.                      | 14. 18 in. = yd.             |

For tests see Pages 42, 43, 44.

## A

## Reduce

1. 13 yd. 2 ft. 7 in. to inches
2. 12 ml. 5 fur. 5 ch. to chains
3. 11 ch. 17 yd. 2 ft. to feet
4.  $13\frac{1}{2}$  ml. to yards
5. 15 yd. 1 ft. to  $\frac{1}{2}$  inches
6. 3 fur. 6 ch. 4 yd. to  $\frac{1}{2}$  yards
7. 10 ml. 7 fur. 9 ch. to chains
8.  $16\frac{1}{2}$  yd. to inches
9. 13 gall. 3 qt. 1 pt. to pints
10. 13 qr. 5 bush. 3 pk. to pecks
11.  $17\frac{1}{2}$  gall. to pints
12. 12 bush. 3 pk. 1 gall. to gallons
13. 13 gall. 5 pt. to gills
14. 7 gall. 2 qt. to  $\frac{1}{2}$  pints

## Reduce

15. 9 pk. 1 gall. 3 qt. to quarts
16.  $3\frac{1}{2}$  gall. to  $\frac{1}{4}$  pints
17. 7 qr. 13 lb. 9 oz. to ounces
18. 12 ton 13 cwt. 3 qr. to quarters
19. 7 qr. 1 st. 13 lb. to pounds
20. 9 st. 12 lb. to  $\frac{1}{2}$  ounces
21.  $16\frac{1}{2}$  ton to pounds
22.  $13\frac{1}{2}$  cwt. to pounds
23. 6 st. 13 lb. to  $\frac{1}{2}$  pounds
24. 13 cwt. 3 qr. 1 st. to stones
25. 11 hr. 13 min. 17 sec. to seconds
26. 5 wk. 5 dy. 17 hr. to hours
27. 13 yr. to days
28. 8 dy. 15 hr. to minutes

## B

## Reduce

- |                     |    |            |
|---------------------|----|------------|
| 1. 2647 in.         | to | yards etc. |
| 2. 2673 yd.         | „  | miles „    |
| 3. 1273 ft.         | „  | furlongs „ |
| 4. 1370 ch.         | „  | miles „    |
| 5. 1324 half-in.    | „  | yards „    |
| 6. 930 ft.          | „  | chains „   |
| 7. 2360 in.         | „  | yards „    |
| 8. 127 pt.          | „  | gallons „  |
| 9. 214 gall.        | „  | bushels „  |
| 10. 1364 qt.        | „  | pecks „    |
| 11. 1262 half-pt.   | „  | gallons „  |
| 12. 362 gills       | „  | quarts „   |
| 13. 1264 half-gall. | „  | pecks „    |
| 14. 937 pt.         | „  | gallons „  |

## Reduce

- |                    |    |              |
|--------------------|----|--------------|
| 15. 1264 qt.       | to | bushels etc. |
| 16. 2936 half-pt.  | „  | gallons „    |
| 17. 1263 oz.       | „  | quarters „   |
| 18. 2183 oz.       | „  | stones „     |
| 19. 1364 qr.       | „  | tons „       |
| 20. 2936 lb.       | „  | tons „       |
| 21. 1265 st.       | „  | tons „       |
| 22. 1236 half-oz.  | „  | quarters „   |
| 23. 2136 half-oz.  | „  | stones „     |
| 24. 5362 sec.      | „  | hours „      |
| 25. 9247 hr.       | „  | weeks „      |
| 26. 1272 dy.       | „  | years „      |
| 27. 5327 min.      | „  | days „       |
| 28. 8266 half-min. | „  | hours „      |

For tests see Pages 42, 43, 44.

## A

1. A draper had two rolls of cloth each 50 yards long. He sold 21 yd. 2 ft. from one roll and 26 yd. 1 ft. 6 in. from the other. What total length of cloth has he now left?
2. In a boarding school are 80 children. They each consume 1 pt. of milk per day. How many gallons of milk are consumed in 1 day?
3. A housewife uses 7 oz. of sugar each day. What total weight of sugar will she use in 1 year? (Ans. in lb. and oz.)
4. Jack was paid 8d. an hour and Tom 10½d. per hr. Find how much more Tom earned than Jack in a week of 48 working hours.
5. Eight pieces, each 2 yd. 2 ft. 3 in. long, were cut from a roll of cloth. This left 1 yd. How long was the roll at first?
6. A tea merchant had 7 chests of tea each holding half a cwt. He made up the tea in pound packets. How many packets did he have?
7. Find the cost of 7 cwt. of apples at 6d. per lb.
8. Find the sum of 4 oz., 28 lb. and ½ stone.
9. Find the weight (in cwt., etc.) of a box of fruit that costs £14 10s. 6d. at 6d. per lb.

## B

1. Find the cost of 1½ cwt. at ¾d. per lb.
2. Find the cost of 2 ton at 1d. per lb.
3. What weight must be added to 3 ton 6 cwt. 1 qr. to produce 10 ton?
4. Find the total weight of 27½ ton 3¾ cwt. 1 qr. 13 lb. and 1¾ ton.
5. In a ship's hold lie 250 cases of tinned fruit. Each case weighs 14 lb. What is their total weight? (Answer in tons, etc.)
6. What sum of money is short of £3 1s. 2½d. by the same amount that £9 8s. 4½d. is short of £11 2s. 3d.?
7. What is left if you take 18 pence 20 times from £3 2s. 3d.?
8. One line of bricks in a wall consists of 564 end-bricks each of which occupies 3 in. How long is the wall? (Ans. in yd.)
9. A boy spends 25 minutes each evening doing his homework. He has homework 5 evenings each week. Find in hours the total time he spends on homework during 40 weeks.

More sums on Pages 45, 46, 47.

## A

1. ½ ton = lb.
2. ½ mile = yd.
3. 40 pt. = gall.
4. ½ hr. = sec.
5. ½ yd. at ½d. inch =
6. ¾ ml. = ch.
7. 1½ stone = lb.
8. ¾ ton = cwt.
9. ½ cwt. = lb.
10. 3 days = hr.

## B

1. Reduce 80 half-pt. to gallons.
2. How many 2 lb. packets could be made out of one cwt.?
3. 1 gallon of milk at 3½d. per pt. =
4. ½ cwt. of potatoes at 1d. per lb. =
5. Write down ten thousand and ten in figures.
6. How much change is left out of half a crown after buying a dozen at 1½d. each?
7. 20 cakes at 5 for 3d. =
8. 3d. × 240 =

## PROBLEMS

1. By what number was 28 multiplied to make 3668?
2. A road on a new estate measures ½ mile. What would it cost to make the road at 30s. per foot?
3. The total weight of 5 apples is 2 lb. The first weighs 6 oz., another 5 oz., the third 7 oz. and the fourth 6 oz. What is the weight of the fifth apple?
4. A fence 25 yd. 2 ft. long is made with planks 1 ft. wide. How many planks are used?
5. A gardener had 8 gallons of weed killer. He used 3 gall. 1 qt. How many pints did he have left?
6. How much had I spent if I received two one-pound notes, a ten-shilling note, 3 half-crowns and 5 halfpence out of a £5 note?
7. A bottle held 1½ pt. What were the total contents of ten bottles?
8. How many nails at 3d. per dozen can be bought for £2 6s. 3d.?
9. A man's weight is 14 stone 7 lb. He carries a bag which when empty weighs 3 lb. In the bag he has packed luggage which weighs 98 lb. Find the total weight of the man with his filled bag.
10. 3096 tins of milk were packed in cases each holding 3 doz. tins. How many cases were needed?

More sums on Pages 45, 46, 47.

## 12 WEIGHTS AND MEASURES (*Multiplication and Division*)

Give your answers in the units mentioned in each sum.

*A*

- |  |  |
|--|--|
| 1. 10 yd. 2 ft. 11 in. $\times$ 21       | 19. 17 gall. 1 pt. $\times$ 35             |
| 2. 13 ch. 10 yd. 1 ft. $\times$ 32       | 20. $8\frac{1}{2}$ gall. $\times$ 23       |
| 3. 20 ml. 3 fur. 6 ch. $\times$ 34       | 21. 9 pk. 1 gall. 3 qt. $\times$ 19        |
| 4. 13 yd. 17 in. $\times$ 25             | 22. 7 gall. $4\frac{1}{2}$ qt. $\times$ 25 |
| 5. 3 fur. 8 ch. 9 yd. $\times$ 26        | 23. 31 qr. 14 lb. 13 oz. $\times$ 23       |
| 6. 24 ml. 5 ch. $\times$ 7               | 24. 13 st. 11 lb. 12 oz. $\times$ 25       |
| 7. 7 ch. 10 yd. 23 in. $\times$ 12       | 25. 9 ton 13 cwt. 1 qr. $\times$ 31        |
| 8. 4 fur. 7 ch. 12 yd. $\times$ 17       | 26. 4 cwt. 3 qr. 1 st. $\times$ 27         |
| 9. 6 ch. 7 yd. 2 ft. $\times$ 25         | 27. 11 ton 3 qr. $\times$ 27               |
| 10. 9 yd. $2\frac{1}{2}$ ft. $\times$ 36 | 28. 2 qr. 13 oz. $\times$ 25               |
| 11. 9 yd. 2 ft. 2 in. $\times$ 14        | 29. 7 cwt. 93 lb. $\times$ 31              |
| 12. 6 ch. 2 ft. $\times$ 37              | 30. $8\frac{1}{2}$ ton $\times$ 23         |
| 13. 34 gall. 3 qt. 1 pt. $\times$ 10     | 31. 2 ton $3\frac{1}{2}$ cwt. $\times$ 36  |
| 14. 7 bush. 1 gall. $\times$ 23          | 32. 10 st. 3 lb. 4 oz. $\times$ 25         |
| 15. 14 pk. 1 gall. 3 pt. $\times$ 14     | 33. 36 hr. 12 min. 13 sec. $\times$ 25     |
| 16. 7 qr. 5 bush. 3 pk. $\times$ 28      | 34. 6 dy. 13 hr. 24 min. $\times$ 31       |
| 17. 13 pk. 1 pt. $\times$ 32             | 35. 13 wk. 5 dy. 14 hr. $\times$ 18        |
| 18. 10 qr. 5 bush. 3 pk. $\times$ 9      | 36. 10 yr. 13 wk. 4 dy. $\times$ 24        |

*B*

- |                                      |   |
|--------------------------------------|---|
| 1. 230 yd. 1 ft. 3 in. $\div$ 21     | 19. 323 qt. 2 pk. $\div$ 32               |
| 2. 431 ch. 0 yd. 2 ft. $\div$ 32     | 20. 31 pk. 3 qt. $\div$ 17                |
| 3. 695 ml. 2 fur. 4 ch. $\div$ 34    | 21. 63 gall. 5 pt. $\div$ 25              |
| 4. 87 fur. 16 yd. $\div$ 36          | 22. 73 pk. 1 gall. 3 qt. $\div$ 18        |
| 5. 14 ml. 3 ch. $\div$ 25            | 23. 16 qr. 7 lb. 9 oz. $\div$ 12          |
| 6. 336 ml. 5 fur. 9 ch. $\div$ 14    | 24. 38 ton 8 cwt. 3 qr. $\div$ 25         |
| 7. 43 yd. 27 in. $\div$ 23           | 25. 112 cwt. 1 qr. 1 st. $\div$ 16        |
| 8. 80 fur. 8 ch. 6 yd. $\div$ 17     | 26. 287 st. 3 lb. 8 oz. $\div$ 28         |
| 9. 9 ch. 13 yd. 14 in. $\div$ 33     | 27. 72 ton 3 qr. $\div$ 23                |
| 10. 57 fur. 13 yd. $\div$ 43         | 28. 46 qr. 15 lb. 7 oz. $\div$ 19         |
| 11. 13 gall. 3 qt. 1 pt. $\div$ 12   | 29. 12 cwt. 3 qr. 1 st. $\div$ 26         |
| 12. 73 bush. 3 pk. 1 gall. $\div$ 23 | 30. 56 ton 3 qr. $\div$ 18                |
| 13. 93 pk. 3 qt. $\div$ 15           | 31. 47 ton $16\frac{1}{2}$ cwt. $\div$ 10 |
| 14. 126 gall. 5 pt. $\div$ 19        | 32. 196 qr. 1 st. 13 lb. $\div$ 43        |
| 15. 136 gall. 1 qt. 1 pt. $\div$ 24  | 33. 26 wk. 3 dy. 8 hr. 36 min. $\div$ 32  |
| 16. 123 pk. 1 gall. 3 qt. $\div$ 7   | 34. 189 wk. 6 dy. 18 hr. $\div$ 27        |
| 17. 81 gall. 1 pt. $\div$ 24         | 35. 58 wk. 3 dy. 6 hr. $\div$ 24          |
| 18. 100 bush. 1 gall. $\div$ 21      | 36. 500 hr. 7 min. 3 sec. $\div$ 25       |

For tests see Pages 42, 43, 44.

## MENTAL SUMS

13

*A*

- |                                |  |
|--------------------------------|--|
| 1. 160 half-pt. = gall.        | 1. £2 10s. per ton. How much per cwt.?                       |
| 2. 2 ft. 7 in. $\times$ 7 =    | 2. How many half-lbs. in 2 stones?                           |
| 3. 54 in. = yd.                | 3. $1\frac{1}{2}$ gallons of milk at $3\frac{1}{2}$ d. pt. = |
| 4. 14 yd. 2 ft. at 3d. per ft. | 4. 5 pt. $\times$ 4 (Ans. in gall.)                          |
| 5. 1 ml. 3 fur. $\times$ 4 =   | 5. How many yd. in 2 furlongs?                               |
| 6. 15 lb. $\div$ 8 =           | 6. How many in. in 2 pieces each 7ft. long?                  |
| 7. 2 ft.—11 in. =              | 7. 16 lemons at 4 for 3d. =                                  |
| 8. 15 ch. = fur.               | 8. $4\frac{1}{2}$ d. $\times$ 240 =                          |
| 9. 2 hr. 20 min. $\times$ 6 =  | 9. $1\frac{3}{4}$ gall. = pt.                                |
| 10. 9 oz. at 2s. per lb. =     |  |

*B*

## PROBLEMS

- Find the value of 6 oz. of gold if  $\frac{1}{8}$  oz. of gold is worth 30s.
- A merchant sells  $1\frac{1}{2}$  cwt. of soda in  $\frac{1}{2}$  lb. packets at  $1\frac{1}{2}$ d. packet. How much does he receive?
- If a car travels 24 miles on a gallon of petrol how far will it travel on  $13\frac{1}{2}$  gallons?
- From a ball of string 20 pieces each 2 yd. long were cut off. If 21 ft. remained what was the length of the string at first?
- A merchant sells 38 tins of varnish, each holding 1 quart. Find the total amount paid to the merchant if the price of the varnish is 15s. per gallon.
- Mr. Smith drives from Cheltenham to London in 4 hr. 13 min. Mr. Brown does the same journey in 3 hr. 51 min. They both reach London at the same time. By how many minutes was Mr. Smith earlier in starting than Mr. Brown?
- A baker uses 62 lb. 9 oz. of ingredients in making 13 cakes. Find the weight in each cake.
- A woman packs fruit into two hampers, one of which holds 2 lb. 12 oz. more than the other. The larger one holds 25 lb. Find the total weight of fruit in the two hampers.
- Find the total weight of 144 boxes of chocolates. Each box holds 2 lb. 8 oz. of chocolate and each box with its packing weighs another 2 oz.

More sums on Pages 45, 46, 47.

## A

1. A ship went from Liverpool to New York in 6 days 13 hr. It stayed at New York for 1 day 23 hr. The return journey took 6 dy. 1 hr. Find the total length of the complete journey.
2. How many 2 oz. bars of chocolate can be cut from a  $\frac{1}{2}$  cwt. block of chocolate?
3. 8 gall. of milk cost 18s. 8d. Find the price per pt.
4. It took 15 hours to cart away a mound which weighed 24 ton 7 cwt. 2 qr. What weight was shifted each hour?
5. Work out  $(100 \text{ threepences} + 93 \text{ fourpences}) \times 21$ .
6. A merchant had 120 tons of coal. He sent away 14 truck loads, each load consisting of 8 ton 10 cwt. How much coal was left?
7. A kerb consists of 53 kerb stones each of which is 1 yd. 2 ft. 9 in. long. Find the total length of the kerb.
8. 1 pt. of milk is sufficient to fill 3 bottles. How many bottles can be filled from 4 churns if each churn holds 48 gallons?

## B

1. A woman uses 168 lb. of coal per week. How many tons will she use in 20 weeks?
2. 10 girls in a cookery class each make 12 cakes. What total weight of sugar is used (in lb. and oz.) if each cake contains  $2\frac{1}{2}$  oz. sugar?
3. Along one side of a road are 198 houses. Find the total length of the road (in yards) if each house is 29 ft. wide.
4. Posts are placed along the side of a field 1 yd. 1 ft. 10 in. apart. Find the distance from the first post to the 20th.
5. A caterer has to supply 120 meals per day. He allows 5 oz. of meat to each meal. How much meat will he use in a week of 5 days?
6. In supplying 244 customers, a milkman sells 91 gall. 2 qt. How much is this for each customer?
7. A ship uses 2 ton 13 cwt. of coal per day. Find the total weight of coal used in a voyage lasting 31 days.
8. A lorry uses 1 pt. of petrol in running  $1\frac{1}{2}$  ml. How many miles could it go using 15 gall. of petrol?

For more sums see Pages 45, 46, 47.

## MENTAL SUMS

## A

1. 1 yr. = dy.
2. 1 leap yr. = dy.
3. 1 hr. = sec.
4.  $\frac{3}{4}$  hr. = min.
5.  $\frac{1}{4}$  hr. = sec.
6. 1200 sec. = min.
7.  $3\frac{1}{2}$  dy. = hr.
8. 3 yr. = dy.
9.  $3\frac{3}{4}$  min. = sec.
10.  $\frac{1}{2}$  yr. = wk.

## B

1. How many hr. from 5 a.m.—11 a.m.
2. " " " " 6 a.m.—3 p.m.
3. " " " " 6.30 a.m.—3.30 p.m.
4. " " " " 7.15 a.m.—12.15 p.m.
5. " " " " 12.20 p.m.—6.20 p.m.
6. How many min. from 7.30 a.m.—10.40 a.m.
7. " " " " 11.50 a.m.—12.35 p.m.
8. " " " " 12.35 p.m.—2.40 p.m.
9. " " " " 10.50 a.m.—12.25 p.m.
10. " " " " 12.40 p.m.—2.15 p.m.

## 1. How many hr. and min. from

- a. 9.20 a.m.—6.15 a.m.
- b. 7.50 p.m.—11.40 p.m.
- c. 7.25 a.m.—6.25 p.m.
- d. 4.29 p.m.—7.36 a.m.
- e. 7.40 a.m.—12.50 p.m.

- f. 6.50 a.m.—12.35 p.m.
- g. 7.26 p.m.—12.20 p.m.
- h. 12.25 p.m.—6.15 p.m.
- i. 12.23 a.m.—7.50 a.m.
- k. 12.40 a.m.—5.50 a.m.

## 2. How many min. from

- a. 7.35 a.m.—6.20 p.m.
- b. 5.50 a.m.—12.30 p.m.

- c. 12.15 a.m.—7.30 a.m.
- d. 12.16 a.m.—1.20 a.m.

## 3. A man takes 2 hr. 10 min. to drive a car from London to Brighton. At what times will he reach Brighton if he leaves London at the following times

- a. Monday 7.20 a.m.
- b. Tuesday 6.50 p.m.
- c. Wednesday 11.50 a.m.

- d. Thursday 11.20 a.m.
- e. Friday 12.30 p.m.
- f. Saturday 12.53 p.m.

## 4. A car travels at the rate of 20 miles an hour. How many miles will it travel from 9.30 a.m.—2 p.m.?

## 5. A girl went out for a walk at 12.15 p.m. She returned at 2.45 p.m. If she rested for 25 min. how long was she walking?

## 6. A boy cuts out squares at the rate of 2 a minute. How many can he cut if he begins at 11.15 a.m. and finishes at 12.20 p.m.?

## 7. Mr. Jones works from 9.5 a.m. until 6.0 p.m. Mr. Smith works from 8.45 a.m. until 5.30 p.m. How many minutes longer does Mr. Jones work than Mr. Smith?

A		B
1. $\frac{3}{4}$ d. $\times 13$	=	1. If 1 yd. cost 4s. what would 2 ft. cost?
2. $\frac{1}{2}$ guinea $\div 7$	=	2. Find the cost of 1 pt. if 1 gall. costs 4s.
3. $221 \div 13$	=	3. How many 2 oz. packets of tea can be made from $1\frac{1}{2}$ qr. of tea?
4. 3 oz. at 1s. 8d. lb.		4. If 2 oz. of tea cost 2d. what will 1 lb. cost?
5. 6 gall. $\div 8$ =	pt.	5. 2 dozen eggs cost 5s. Find the cost of one egg.
6. $17 \times 500$	=	6. $6d. \times 80$ =
7. 2 st. 5 lb. =	lb.	7. Write in figures ten thousand and twenty-seven.
8. $3d. \times 72$	=	
9. $28 \times 11$	=	
10. 1 lb. 3 oz. at 2s. per lb.	=	

## PROBLEMS

- I. Add together  $\text{£}\frac{1}{8}$ ,  $\text{£}\frac{1}{3}$ ,  $\text{£}\frac{1}{6}$ ,  $\text{£}\frac{1}{5}$ .
2. Find the cost of 164 buns at 4 for 3d.
3. Balloons are 3 for 2d. How many can a shopkeeper buy for half a guinea?
4. From 110 half-crowns take 346 sixpences.
5. Biscuits are sold at 3 for 2d. How many biscuits are there in 1 lb. if 1 lb. costs 2s. 8d.?
6. Find the total value of 25 loads of paper. Each weighed 11 ton 4 cwt. and the price of the paper was  $\text{£}2$  per ton.
7. Find the value of a roll of cloth 60 yards long at 1s. 7d. per foot.
8. A fence consists of 5 strands of wire. Find the length of the fence (in chains) if the total length of wire used is 2200 yards.
9. How many seconds from 9.35 a.m. to 12.10 p.m.?
10. A man starts work at 8.30 a.m. He has 1 hr. for lunch. He finishes at 5 p.m. How many hours does he work in a week of 5 full days?
11. A man went out with  $\text{£}10$ . He bought a tie for half a guinea, a pair of gloves for 12s. 6d. and 3 books at 2s. 6d. each. His fares amounted to 1s.  $4\frac{1}{2}$ d. How much had he left?
12. Buns are 4 for 3d. How many can I buy with  $1\frac{1}{2}$  guineas?

More sums on Pages 45, 46, 47.

A		B
1. 1 lb. 6 oz. at 1s. 4d. per lb. =		1. How many $\frac{1}{2}$ -pt. in $4\frac{1}{2}$ gall.?
2. $4d. \times 71$	=	2. How many inch pieces can be cut out of $1\frac{1}{2}$ yd. of copper wire?
3. 9 ton 10 cwt. =	cwt.	3. Find the cost of 3 dozen nutmegs at $1\frac{1}{2}$ d. each.
4. $17s. 3d. \div 4$	=	4. $2\frac{1}{2}$ d. $\times 480$ =
5. $3\frac{1}{4}$ d. $\times 240$	=	5. When I had spent $\frac{3}{4}$ of my money I had 1s. 3d. left. How much had I at first?
6. 64 oz. =	lb.	6. How many $\frac{1}{4}$ -lb. packets can be made from $1\frac{1}{2}$ stones of tea?
7. $2d. \times 78$	=	
8. $29 \times 11$	=	
9. $1\frac{1}{2}$ lb. at 1s. 2d. per lb. =		
10. 2 lb. 5 oz. at 2s. 8d. per lb. =		

## PROBLEMS

- I. A boy works 8 hours per day for 5 days in a week and 4 hours on the sixth day. If his total wages amount to  $\text{£}1$  18s. 6d., how much is he paid per hour?
2. How many 4-inch lengths of string can be cut from a ball containing 6 yd. 2 ft. 8 in.?
3. A boy hired a boat at 1s. 6d. per hour at 3.5 p.m. He returned at 5.5 p.m. How much had he to pay?
4. How many times can 36 be taken from 2196?
5. How much did I pay for a bicycle if its marked price of  $12\frac{1}{2}$  guineas was reduced by  $\frac{1}{4}$ ?
6. Find the cost of  $1\frac{1}{2}$  cwt. of salt at 1s. per lb.
7.  $4\frac{1}{2}$  ton  $+ 3\frac{3}{4}$  cwt.  $+ 2$  ton 3 cwt. 1 qr.  $+ 1\frac{1}{4}$  ton =
8. What number of 28 lb. bags of dried peas weigh 2 ton 12 cwt. 3 qr.?
9. In each of 8 classes in a school there were 42 children. If 26 were absent how many children in the school were present?
10. Find the cost of 108 articles at 13s. 6d. per dozen.
11. Find the cost of a ton if  $\frac{1}{2}$  cwt. costs 1s.  $3\frac{1}{2}$ d.
12. A grocer took 32s. 8d. in selling potatoes at 1d. per lb. How many cwt. did he sell?

More sums on Pages 45, 46, 47.

## A

*Find the cost of*

1. 2 doz. articles at 2d. each.  
4 doz. articles at 1d. each.  
 $\frac{1}{2}$  doz. articles at  $1\frac{1}{2}$ d. each.  
 $\frac{3}{4}$  doz. articles at 1s. per doz.
2. 18 articles at 2 for 1d.  
24 articles at 5d. per doz.  
60 articles at 2d. per doz.  
11 articles at  $1\frac{1}{2}$ d. each.
3.  $2\frac{1}{2}$  lb. at 1s. per lb.  
 $\frac{1}{2}$  lb. at 11d. per lb.  
 $1\frac{1}{2}$  lb. at 5d. per lb.  
 $\frac{3}{4}$  lb. at 2s. per lb.
4. 8 oz. at  $\frac{3}{4}$ d. per oz.  
9 at 1s. per doz.  
25 at 5 for 4d.  
24 at 8 for 1s.
5. 4 lb. at 9d. per lb.  
3 pt. at 6d. per quart.  
27 in. at 5s. per yd.  
9 in. at 3s. per yard.
6.  $1\frac{1}{2}$  feet at 2d. per inch.  
1 stone at 7 lb. for 5d.  
2 stone at  $1\frac{1}{2}$ d. per lb.  
11 oz. at 1s. 4d. per lb.
7.  $\frac{1}{2}$  gall. at 2d. per pt.  
 $1\frac{1}{2}$  gall. at  $3\frac{1}{2}$ d. per qt.  
5 cwt. at 30s. per ton.  
27 articles at 9 for  $4\frac{1}{2}$ d.
8.  $\frac{1}{2}$  gross articles at 2d. each.  
60 articles at 5d. per score.  
2 gross articles at  $2\frac{1}{2}$ d. per doz.  
36 articles at 5s. per doz.

More bills on Page 54.

## B

*Find the cost of*

1. 12 oz. at 2s. per lb.  
 $2\frac{1}{2}$  lb. at 5d. per lb.  
1 lb. 5 oz. at 1s. 4d. per lb.  
4 peaches at  $3\frac{1}{2}$ d. each.
2.  $\frac{3}{4}$  lb. cake at 10d. per lb.  
 $\frac{1}{4}$  lb. cheese at 11d. per lb.  
 $1\frac{1}{2}$  lb. at 9d. per lb.  
2 doz. buns at  $1\frac{1}{2}$ d. each.
3.  $3\frac{1}{2}$  yd. ribbon at 4d. per yd.  
 $\frac{1}{2}$  yd. rayon at 1s. 11d. per yd.  
3 yd. tape at  $6\frac{3}{4}$ d. per yd.  
 $\frac{1}{2}$  yd. silk at 5s. 11d. per yd.
4. 1 lb. 8 oz. at 10d. per lb.  
15 oz. at 1s. 4d. per lb.  
9 at 2s. per dozen.  
 $3\frac{1}{2}$  lb. at 7d. per lb.
5. 1 ft. 6 in. at 1d. per inch.  
 $\frac{1}{2}$  lb. at  $\frac{1}{2}$ d. per lb.  
 $\frac{1}{2}$  gall. at 3d. per pt.  
 $1\frac{1}{4}$  ft. at 1d. per inch.
6. 1 lb. 2 oz. at 2s. 8d. per lb.  
 $\frac{3}{4}$  lb. at 5d. per lb.  
1 gross at 1d. each.  
 $1\frac{1}{2}$  doz. at 2d. each.
7.  $\frac{3}{4}$  yd. at 1s. 6d. per yd.  
 $1\frac{1}{2}$  yd. at  $11\frac{1}{2}$ d. per yd.  
1 ft. 6 in. at 1s. 2d. per yd.  
 $1\frac{1}{2}$  yd. at 1s.  $6\frac{1}{2}$ d. per yd.
8. 1 lb. 10 oz. at 8d. per lb.  
1 gross eggs at  $2\frac{1}{2}$ d. each.  
7 at 1s 9d. per doz.  
 $2\frac{3}{4}$  doz. at 1d. each.

## A

Write down the following numbers in figures.

1. One thousand, one hundred and nine.
2. Twenty-one thousand, six hundred and three.
3. Five hundred and seventy-two thousand, one hundred and ninety-three.
4. One million, one hundred and eleven thousand, eight hundred and twenty-two.
5. Eight hundred thousand, six hundred and fifty-nine.
6. Three hundred and two thousand, eight hundred.
7. One hundred and seventy thousand, and ten.
8. Two hundred and twenty thousand, seven hundred and seventy.
9. One million, one thousand and nine.
10. One million, seven hundred thousand, eight hundred.

Find the sum of:—three thousand, one hundred and twenty-one; two thousand and fifty-three; seven hundred and twenty; and three hundred.

## B

1. Find the difference between ten thousand and fifty, and nine thousand and five.
2. Divide one hundred and nine thousand, eight hundred by eighteen.
3. Find the product of one thousand and twenty-seven, and seventeen.
4. Take ten thousand and seven, from the sum of eight thousand and eighty and nine thousand one hundred and two.
5. Add one thousand two hundred, to the difference between eighteen thousand and fifty and seventeen thousand and one.
6. Divide the product of one hundred and five, and two hundred and five, by one hundred and twenty-three.
7. Find the twenty-seventh part of two hundred and seven thousand, three hundred and six.
8. Divide half a million by sixteen.
9. Take seventy from seven thousand and seventeen, and multiply the answer by thirty.
10. Find the difference between six and one million.
11. Divide one hundred and three thousand, nine hundred and nine by thirteen, and double the answer.

## MENTAL SUMS

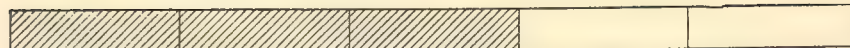
- | A                                       | B   |
|---|---|
| 1. $7\frac{1}{2}d. \div 1\frac{1}{2}d.$ | 1. Reduce 1s. $2\frac{1}{2}d.$ to halfpennies.  |
| 2. $1s. 10d. \div 2d.$                  | 2. How many half-crowns in £4 7s. 6d.?  |
| 3. $£2 10s. \div 5s.$                   | 3. How many times can a watering can holding 5 pt. be filled from 5 gall.?                |
| 4. $£3 \div 7s. 6d.$                    | 4. How many lessons each 20 min. long can be taken in 1 hr. 20 min.?                      |
| 5. $2 lb. 8 oz. \div 8 oz.$             | 5. How many pieces each 9 in. long can be cut from 3 yards?                               |
| 6. $1 ton 10 cwt. \div 2 cwt.$          | 6. How many pears each costing $2\frac{1}{2}d.$ can be bought with 1s. $0\frac{1}{2}d.$ ? |
| 7. $2 days \div 8 hr.$                  |   |
| 8. $2 hr. \div 40 min.$                 |   |
| 9. $3 gall. \div 1 qt. 1 pt.$           |   |
| 10. $1 yd. 9 in. \div 9 in.$            |   |

## DIVISION SUMS

- |   |   |
|---|---|
| 1. $2s. 4d. \div 7d.$                             | 12. $6 lb. 3 oz. \div 9 oz.$                        |
| 2. $9s. 2d. \div 11d.$                            | 13. $8 lb. 5 oz. \div 1 lb. 3 oz.$                  |
| 3. $3s. 9d. \div 4\frac{1}{2}d.$                  | 14. $17 ton 12 cwt. \div 16 cwt.$                   |
| 4. $6s. 9d. \div 9d.$                             | 15. $6 yd. 5 in. \div 1 ft. 1 in.$                  |
| 5. $7s. 4d. \div 8d.$                             | 16. $6 ft. 1\frac{1}{2} in. \div 10\frac{1}{2} in.$ |
| 6. $14s. 1d. \div 1s. 1d.$                        | 17. $16 ml. 7 fur. \div 1 ml. 7 fur.$               |
| 7. $17s. 5d. \div 1s. 7d.$                        | 18. $12 g. 1 qt. 1 pt. \div 1 g. 1 qt. 1 pt.$       |
| 8. $16s. 3d. \div 1s. 3d.$                        | 19. $6 hr. 45 min. \div 45 min.$                    |
| 9. $18s. 8d. \div 2s. 8d.$                        | 20. $13 dy. 23 hr. \div 2 dy. 19 hr.$               |
| 10. $11s. 4\frac{1}{2}d. \div 1s. 7\frac{1}{2}d.$ | 21. $£17 5s. \div 5s. 9d.$                          |
| 11. $4 lb. 11 oz. \div 5 oz.$                     | 22. $£21 4s. 8d. \div 16s. 4d.$                     |

## PROBLEMS

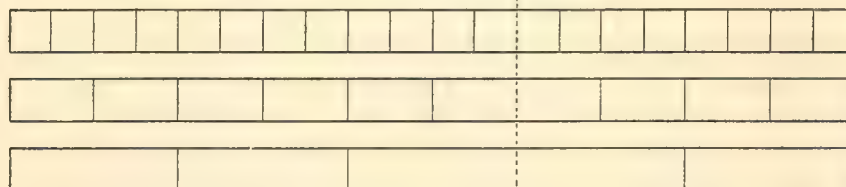
- How many 9 oz. packets can be made from 27 lb.?
- How many pieces each 3 ft. 6 in. long can be cut from 42 yd.?
- How many loads each 1 ton 19 cwt. could be made from 19 ton 10 cwt.?
- How many books, each costing 15s. 9d., could be bought with 6 guineas?
- A motor car went 1 mile in 3 min. 45 sec. How many miles could it go in 30 min.?
- A number of girls each earning £1 14s. 6d. earned £36 4s. 6d. altogether. How many girls were there?
- Along one side of a road 348 yd. long are houses each of which occupies 9 yd. 2 ft. How many houses are there?
- A piece of meat at 1s. 8d. per lb. came to 10s.  $7\frac{1}{2}d.$  Find the price of each ounce and then work out the weight of the meat in ounces.



- The rectangle represents 1 whole one. Draw it in your book, five inches long and  $\frac{1}{4}$  inch wide. Then divide it into 5 equal parts (as shown in the diagram). Each part is then  $\frac{1}{5}$  of 1 whole one. Shade three of these fifths. How many fifths are left? What is the answer to  $1 - \frac{3}{5}$ ?
- By means of diagrams, work out (a)  $1 - \frac{2}{7}$  (b)  $1 - \frac{3}{8}$  (c)  $1 - \frac{5}{6}$
- Write down the answers to the following sums  
(a)  $1 - \frac{5}{9}$  (b)  $1 - \frac{3}{16}$  (c)  $1 - \frac{1}{15}$  (d)  $1 - \frac{7}{12}$



- This rectangle is 4 inches long and  $\frac{1}{4}$  inch wide. It is divided into 2 equal parts and represents 2 whole ones. Copy it in your book, and then divide the first whole one into quarters. Cross out three of these quarters. What is the answer to  $2 - \frac{3}{4}$ ?
- By means of diagrams, work out (a)  $2 - \frac{3}{8}$  (b)  $3 - \frac{7}{8}$  (c)  $2 - \frac{7}{10}$
- Write down the answers to  
(a)  $2 - \frac{5}{8}$  (b)  $3 - \frac{1}{8}$  (c)  $4 - \frac{5}{7}$  (d)  $5 - \frac{5}{11}$



- The above rectangles should be drawn in your book 5 inches long and  $\frac{1}{4}$  in. wide, and each one represents 1 whole one. Copy the rectangles in your book, putting the lower two exactly under the top one. Divide the lowest rectangle into 5 equal parts, the next into 10 equal parts and the top one into 20 equal parts. Mark off  $\frac{1}{2}$  on the top one,  $\frac{5}{10}$  on the second, and  $\frac{10}{20}$  on the lowest. Draw a dotted line, as shown above, to show that  $\frac{1}{2} = \frac{5}{10} = \frac{10}{20}$ .
- Make a similar diagram to show that  $\frac{1}{3} = \frac{2}{6} = \frac{4}{12}$
- Reduce the following fractions to lowest terms  
(a)  $\frac{1}{10}$  (b)  $\frac{9}{12}$  (c)  $\frac{1}{8}$  (d)  $\frac{9}{24}$  (e)  $\frac{1}{5}$  (f)  $\frac{1}{8}$

A	B	C
Mental	Work out	Bring to Lowest Terms
I. $\frac{3}{4}$ of 8d.	I. $\frac{3}{4}$ of £2 10s.	I. $\frac{4}{24}$ 13. $\frac{165}{880}$
2. $\frac{3}{4}$ of 10d.	2. $\frac{3}{4}$ of 16s. 6d.	2. $\frac{6}{36}$ 14. $\frac{300}{1200}$
3. $\frac{2}{15}$ of 15 oz.	3. $\frac{5}{8}$ of £4	3. $\frac{7}{84}$ 15. $\frac{140}{140}$
4. $\frac{1}{12}$ of an hr. = min.	4. $\frac{3}{4}$ of £5	4. $\frac{48}{48}$ 16. $\frac{192}{192}$
5. $\frac{3}{4}$ of a shilling	5. $\frac{3}{4}$ of 12 lb. 8 oz.	5. $\frac{30}{30}$ 17. $\frac{88}{88}$
6. $\frac{1}{10}$ of a ton = cwt.	6. $\frac{5}{8}$ of 13 hr. 30 min.	6. $\frac{50}{50}$ 18. $\frac{57}{57}$
7. $\frac{3}{4}$ of a min. = sec.	7. $\frac{3}{4}$ of 15 gall.	7. $\frac{120}{120}$ 19. $\frac{188}{188}$
8. $\frac{1}{8}$ of a lb. = oz.	8. $\frac{7}{8}$ of 5 guineas	8. $\frac{24}{24}$ 20. $\frac{231}{231}$
9. $\frac{3}{4}$ of a day = hr.	9. $\frac{3}{4}$ of 17 ton 10 cwt.	9. $\frac{170}{170}$ 21. $\frac{231}{231}$
10. $\frac{3}{4}$ of a £	10. $\frac{5}{12}$ of 13 yd. 2 ft.	10. $\frac{140}{2240}$ 22. $\frac{750}{1000}$
11. $\frac{3}{4}$ of 9 shillings	11. $\frac{3}{4}$ of 17 miles	11. $\frac{78}{84}$ 23. $\frac{245}{100}$
12. $\frac{1}{8}$ of a gall. = pt.	12. $\frac{1}{24}$ of £16	12. $\frac{96}{108}$ 24. $\frac{121}{121}$

D	F	G
Bring to improper fractions	Find the L.C.M. of	Find the missing numbers
I. $2\frac{1}{2}$ 6. $6\frac{2}{3}$	I. 3, 4, 2	I. $\frac{1}{2}$ = 5
2. $3\frac{3}{4}$ 7. $7\frac{8}{9}$	2. 4, 8, 2	2. $\frac{1}{6}$ = 15
3. $5\frac{5}{8}$ 8. $11\frac{7}{8}$	3. 14, 2, 4	3. $\frac{5}{8}$ = 10
4. $2\frac{9}{10}$ 9. $10\frac{6}{11}$	4. 4, 11, 2	4. $\frac{5}{6}$ = 15
5. $4\frac{9}{11}$ 10. $16\frac{7}{8}$	5. 4, 3, 12, 6	5. $\frac{15}{25}$ = 5
	6. 3, 5, 12, 4	6. $\frac{1}{4} + \frac{1}{12}$ = 12
	7. 14, 21, 3, 2	7. $\frac{1}{3} + \frac{1}{6}$ = 5
	8. 15, 20, 5, 3	8. $\frac{1}{2} + \frac{1}{3}$ = 5
	9. 5, 10, 9, 15	9. $\frac{1}{3} - \frac{1}{6}$ = 5
	10. 3, 6, 26, 13	10. $\frac{1}{2} - \frac{1}{8}$ = 5
	11. 22, 3, 2, 33	11. $\frac{3}{10} + \frac{1}{2} + \frac{1}{5}$ = 10
	12. 2, 7, 4, 49	12. $\frac{2}{3} - \frac{1}{6}$ = 5

E
Bring to mixed numbers
I. $\frac{9}{2}$ 6. $\frac{131}{10}$
2. $\frac{7}{3}$ 7. $\frac{143}{15}$
3. $\frac{17}{4}$ 8. $\frac{123}{14}$
4. $\frac{12}{5}$ 9. $\frac{129}{16}$
5. $\frac{119}{12}$ 10. $\frac{127}{50}$

A	B
I. $\frac{3}{4} + \frac{1}{10}$	I. $\frac{5}{8} - \frac{1}{2}$
2. $\frac{2}{3} + \frac{1}{3}$	2. $\frac{7}{8} - \frac{3}{4}$
3. $\frac{1}{4} + \frac{5}{12}$	3. $\frac{11}{12} - \frac{1}{6}$
4. $\frac{5}{8} + \frac{1}{8}$	4. $\frac{9}{10} - \frac{2}{5}$
5. $\frac{3}{10} + \frac{5}{12}$	5. $\frac{2}{3} - \frac{1}{12}$
6. $\frac{1}{11} + \frac{2}{11}$	6. $\frac{5}{8} - \frac{5}{24}$
7. $\frac{7}{15} + \frac{5}{18}$	7. $\frac{9}{11} - \frac{3}{22}$
8. $\frac{1}{3} + \frac{1}{6} + \frac{1}{2}$	8. $\frac{4}{5} - \frac{7}{15}$
9. $\frac{1}{2} + \frac{1}{2} + \frac{1}{10}$	9. $\frac{3}{8} - \frac{1}{18}$
10. $\frac{1}{3} + \frac{1}{6} + \frac{1}{12}$	10. $\frac{8}{9} - \frac{3}{8}$
11. $\frac{4}{5} + \frac{2}{5} + \frac{3}{5}$	11. $\frac{5}{7} - \frac{13}{21}$
12. $\frac{7}{8} + \frac{3}{4} + \frac{5}{16}$	12. $\frac{3}{4} - \frac{1}{8}$
13. $\frac{7}{10} + \frac{3}{5} + \frac{1}{2}$	13. $\frac{7}{10} - \frac{1}{4}$
14. $\frac{5}{12} + \frac{5}{6} + \frac{3}{4}$	14. $\frac{2}{3} - \frac{1}{6}$
15. $\frac{1}{4} + \frac{5}{12} + \frac{1}{2}$	15. $\frac{2}{3} - \frac{1}{4}$
16. $\frac{2}{3} + \frac{5}{6} + \frac{1}{4}$	16. $\frac{4}{5} - \frac{4}{5}$
17. $\frac{1}{2} + \frac{3}{4} + \frac{1}{2}$	17. $\frac{5}{8} - \frac{1}{12}$
18. $\frac{1}{11} + \frac{1}{2} + \frac{5}{22}$	18. $\frac{5}{8} - \frac{5}{8}$
19. $\frac{3}{8} + \frac{1}{4} + \frac{3}{8} + \frac{7}{8}$	19. $\frac{6}{7} - \frac{7}{10}$
20. $\frac{5}{8} + \frac{3}{8} + \frac{11}{12} + \frac{2}{3}$	20. $\frac{1}{2} - \frac{4}{11}$
21. $\frac{4}{5} + \frac{1}{5} + \frac{7}{10} + \frac{3}{5}$	21. $\frac{7}{9} - \frac{5}{12}$
22. $\frac{1}{8} + \frac{7}{12} + \frac{5}{8} + \frac{5}{8}$	22. $\frac{9}{10} - \frac{1}{15}$
23. $3\frac{1}{2} + 1\frac{3}{4}$	23. $2\frac{5}{8} - 1\frac{1}{2}$
24. $1\frac{1}{2} + 5\frac{5}{8}$	24. $3\frac{11}{12} - 2\frac{1}{4}$
25. $10\frac{2}{11} + 4\frac{5}{11} + 1\frac{4}{11}$	25. $5\frac{17}{20} - 2\frac{1}{5}$
26. $2\frac{1}{4} + 2\frac{1}{2} + 1\frac{1}{2}$	26. $3\frac{1}{8} - 2\frac{1}{4}$
27. $3\frac{1}{2} + 1\frac{3}{4} + 2\frac{5}{4}$	27. $3\frac{1}{2} - 1\frac{1}{2}$
28. $2\frac{3}{4} + 3\frac{3}{4} + \frac{7}{10}$	28. $4\frac{3}{20} - 1\frac{1}{4}$
29. $2\frac{1}{11} + \frac{5}{33} + 1\frac{2}{3}$	29. $7\frac{3}{11} - 2\frac{1}{2}$
30. $3\frac{1}{2} + \frac{5}{7} + 2\frac{1}{6}$	30. $8\frac{3}{4} - 2\frac{1}{4}$
31. $1\frac{1}{4} + 2\frac{1}{2} + 1\frac{1}{2}$	31. $16 - 1\frac{1}{6}$
32. $2\frac{3}{4} + 1\frac{5}{8} + 2\frac{5}{12}$	32. $18 - 2\frac{3}{8}$
33. $3\frac{3}{4} + 1\frac{1}{6} + 2\frac{1}{2}$	33. $19 - 1\frac{7}{8}$
34. $2\frac{1}{2} + 1\frac{1}{3} + 3\frac{1}{6}$	34. $12 - 3\frac{7}{11}$
35. $3\frac{3}{10} + 2\frac{1}{4} + 1\frac{1}{5}$	35. $1 - 1\frac{3}{16}$
36. $2\frac{4}{5} + 1\frac{2}{5} + 1\frac{8}{15}$	36. $5 - 1\frac{1}{3}$
37. $2\frac{3}{8} + 2\frac{7}{8} + 2\frac{3}{4}$	37. $6\frac{7}{8} - 1\frac{1}{8}$
38. $1\frac{1}{28} + 4\frac{1}{2} + 1\frac{7}{13}$	38. $7\frac{5}{14} - 3\frac{3}{4}$
39. $6\frac{4}{5} + 2\frac{1}{5} + 6\frac{3}{10}$	39. $7\frac{5}{9} - 2\frac{7}{12}$
40. $5\frac{7}{8} + \frac{2}{8} + 8\frac{5}{8}$	40. $2\frac{7}{8} - \frac{2}{8}$
41. $1\frac{5}{9} + 2\frac{1}{4} + 1\frac{7}{12}$	41. $7\frac{1}{18} - 2\frac{5}{26}$
42. $\frac{1}{8} + 3\frac{7}{12} + 4\frac{1}{6}$	42. $10\frac{1}{9} - 9\frac{1}{12}$

More sums on Page 48.

A		B
1. $\frac{1}{3} + \frac{1}{2}$	=	1. What must be added to $\frac{4}{5}$ to make one whole one?
2. $\frac{1}{4} + \frac{1}{5}$	=	2. John spent $\frac{1}{4}$ and $\frac{1}{5}$ of his money. What fraction was left?
3. $2\frac{2}{5} + \frac{1}{3}$	=	3. How many twelfths are there in $\frac{1}{3} + \frac{1}{4}$ ?
4. $\frac{1}{2} + \frac{1}{4} + \frac{1}{8}$	=	4. Take the sum of $\frac{1}{2} + \frac{1}{3}$ from unity.
5. $\frac{1}{2} - \frac{1}{3}$	=	5. How many half-pounds are there in half a cwt.?
6. $\frac{1}{4} - \frac{1}{6}$	=	6. 2s. 11d. + 3s. 6½d. + 10d. =
7. $\frac{2}{3} - \frac{1}{2}$	=	7. £2 - 13s. 6½d.
8. $3\frac{5}{8} - 3\frac{1}{3}$	=	
9. 2s. 6d. × 84	=	
10. 3s. 4d. × 21	=	

FRACTIONS (*Addition and Subtraction*)

- Find the sum of  $\frac{1}{3}$ ,  $\frac{1}{4}$  and  $\frac{3}{8}$ .
- Find the difference between  $\frac{1}{4}$  and  $\frac{1}{5}$ .
- Sam had  $\frac{1}{3}$  of a cake, Francis had  $\frac{1}{4}$  and John had the rest. What fraction was John's share?
- From a line  $4\frac{1}{4}$  in. long  $2\frac{3}{4}$  in. was cut off. What length remained?
- By what length is  $3\frac{1}{2}$  yd. short of  $5\frac{1}{2}$  yd.?
- From the sum of  $2\frac{1}{4}$  and  $3\frac{1}{3}$  take  $\frac{5}{6}$ .
- Mary gave away  $\frac{1}{3}$  of her apple and then  $\frac{1}{2}$ . What fraction had she left?
- A piece of wire was  $6\frac{3}{8}$  ft. long.  $2\frac{1}{2}$  ft. were cut off and then  $3\frac{1}{8}$  ft. What length was left?
- A pole was 28 ft. long.  $8\frac{5}{8}$  ft. were painted red,  $9\frac{1}{3}$  ft. blue and the rest white. How long was the white part?
- What must be added to the sum of  $\frac{1}{3}$ ,  $2\frac{1}{2}$ , and  $3\frac{3}{4}$  to make a dozen?
- A boy read  $\frac{1}{4}$  of a book on Monday,  $\frac{1}{5}$  on Tuesday and  $\frac{1}{3}$  on Wednesday. What fraction of the book has he still to read?
- What is left when  $2\frac{3}{8}$  yd. are taken from  $7\frac{1}{4}$  yd.?
- What must be taken from  $10\frac{1}{4}$  ton to leave  $7\frac{7}{10}$  ton?
- A boy spent  $\frac{2}{3}$  of his money on books and  $\frac{1}{4}$  on fares. What fraction was left?
- A shopping bag, when empty, weighed  $\frac{3}{4}$  lb.  $2\frac{1}{2}$  lb. of potatoes and  $3\frac{1}{4}$  lb. of apples were put into it. Find the total weight.

A		B
1. £ $\frac{2}{3}$	=	1. When $\frac{3}{4}$ of an apple has been eaten, how many tenths remain?
2. £ $\frac{1}{4}$ + £ $\frac{1}{5}$	=	2. 1 lb. 6 oz. at 2s. per lb. =
3. $3\frac{1}{2}$ d. × 480	=	3. From the sum of 4 and 6 take their difference.
4. 5s. 6d. ÷ 4	=	4. From half a guinea take 4s. 9d.
5. $1\frac{1}{2}$ d. × 73	=	5. Find the cost of 2 st. at $1\frac{1}{2}$ d. per lb.
6. 2s. 6d. × 23	=	6. Find the cost of 1 gross at $2\frac{1}{2}$ d. per doz.
7. 2s. 0d. × 27	=	7. Find the cost of 2 yd. of ribbon at 2d. per inch.
8. $1\frac{3}{4}$ lb. at 10d. per lb.	=	
9. $2\frac{1}{2}$ times 2s. 6d.	=	
10. $\frac{1}{3} + \frac{1}{4} + \frac{1}{12}$	=	

## PROBLEMS

- Work out ( $\frac{1}{3} + \frac{1}{5}$ ) hours and give your answer in minutes.
- Find the cost of 406 oranges at 14 for 1s.
- Three fractions added together come to 1. Two of the fractions were  $\frac{2}{3}$  and  $\frac{1}{10}$ . What was the third fraction?
- Mrs. Brown made a cake which weighed 2 lb. 6 oz. To each of her 3 children she gave a piece weighing 8 oz. She divided the rest into two equal parts. Find the weight of each part.
- A book costs 2s. 9d. How many books can I buy with £5 4s. 6d.?
- What must be added to  $2\frac{7}{10}$  to make it equal to  $(1\frac{1}{4} + 3\frac{3}{8})$ ?
- Find the missing fraction in the following sum  
 $1\frac{2}{3} + 3\frac{1}{8} + 2\frac{5}{12} + ? = 7\frac{1}{2}$
- In one shop I can buy 3 yards of cloth for 5s. 11½d. In another shop I can buy 5 yards for 9s. 2d. By how much per yard is the cloth in one shop dearer than the cloth in the other shop?
- Books are 3s. 6d. per dozen. How many can I buy with 5 guineas?
- Take the least from the greatest:  $4\frac{3}{4}$ ,  $2\frac{2}{3}$ ,  $4\frac{5}{8}$  and  $2\frac{1}{4}$ .
- What quantity of turpentine had a bottle contained if after  $3\frac{3}{8}$  pt. and  $\frac{5}{12}$  of a pint had been taken out,  $4\frac{1}{2}$  pt. remained?
- One joint of beef weighed  $4\frac{1}{8}$  lb. and a second  $\frac{3}{4}$  lb. more. Find the weight of the two joints.
- By how much is the sum of  $7\frac{7}{8}$  and  $8\frac{1}{2}$  short of 20?

A

- I.  $\frac{2}{3} \times \frac{5}{9}$
2.  $\frac{1}{4}$  of  $\frac{5}{8}$
3.  $\frac{5}{8} \times \frac{7}{12}$
4.  $\frac{4}{9}$  of  $\frac{9}{10}$
5.  $1\frac{1}{2} \times 1\frac{1}{3}$
6.  $\frac{4}{7}$  of  $\frac{7}{8}$
7.  $\frac{5}{8} \times \frac{3}{10}$
8.  $\frac{2}{3} \times \frac{9}{10}$
9.  $\frac{3}{4}$  of  $\frac{7}{10}$
10.  $\frac{5}{8}$  of  $\frac{1}{10}$
11.  $\frac{9}{20}$  of  $\frac{5}{18}$
12.  $1\frac{1}{2}$  of  $2\frac{1}{3}$
13.  $1\frac{1}{3} \times 1\frac{1}{3}$
14.  $1\frac{1}{8} \times 1\frac{1}{7}$

15.  $\frac{2}{3} \times \frac{1}{6} \times \frac{4}{9}$
16.  $\frac{7}{10} \times \frac{2}{21} \times \frac{7}{22}$
17.  $\frac{9}{10} \times \frac{1}{12} \times \frac{5}{9}$
18.  $\frac{1}{3} \times \frac{1}{11} \times \frac{1}{8}$
19.  $\frac{3}{4} \times \frac{3}{8} \times \frac{1}{2}$
20.  $\frac{8}{9} \times \frac{3}{8} \times \frac{3}{8}$
21.  $\frac{7}{12} \times \frac{5}{21} \times \frac{3}{10}$
22.  $\frac{3}{5} \times \frac{7}{18} \times \frac{4}{9}$
23.  $\frac{5}{8} \times 1\frac{1}{2}$
24.  $5\frac{1}{2} \times 5\frac{1}{2}$
25.  $5 \times \frac{7}{8}$
26.  $1\frac{1}{2}$  of 8
27.  $1\frac{5}{8}$  of 2
28.  $\frac{7}{11}$  of 7

29.  $2\frac{1}{2} \times 3\frac{1}{3} \times \frac{1}{10}$
30.  $2\frac{1}{4} \times 5 \times 3$
31.  $1\frac{1}{3} \times 2\frac{1}{2} \times \frac{3}{10}$
32.  $4\frac{1}{8} \times 2\frac{3}{11} \times 1\frac{1}{3}$
33.  $30 \times 3\frac{1}{3} \times \frac{7}{10}$
34.  $4\frac{1}{2} \times \frac{4}{5} \times 2\frac{1}{12}$
35.  $4\frac{1}{2} \times 1\frac{5}{8} \times \frac{4}{11}$
36.  $\frac{3}{7} \times 1\frac{1}{21} \times 1\frac{2}{10}$
37.  $\frac{8}{9} \times 39 \times \frac{2}{5}$
38.  $1\frac{1}{2} \times 4 \times 6$
39.  $1\frac{1}{3}$  of  $1\frac{1}{2} \times 15$
40.  $9 \times 10\frac{2}{3}$  of  $\frac{5}{8}$
41.  $1\frac{1}{3}$  of  $3\frac{1}{3}$  of  $1\frac{2}{3}$
42.  $1\frac{9}{10} \times \frac{7}{10} \times 13$

B

- I.  $\frac{1}{4} \div \frac{3}{8}$
2.  $\frac{1}{6} \div \frac{5}{7}$
3.  $\frac{9}{10} \div \frac{1}{3}$
4.  $\frac{7}{8} \div \frac{4}{5}$
5.  $\frac{4}{11} \div \frac{5}{12}$
6.  $\frac{2}{3} \div \frac{2}{9}$
7.  $\frac{7}{8} \div \frac{7}{16}$
8.  $\frac{3}{4} \div \frac{5}{8}$
9.  $1\frac{5}{12} \div 1\frac{1}{10}$
10.  $\frac{1}{8} \div \frac{1}{8}$
11.  $\frac{8}{9} \div \frac{5}{8}$
12.  $1\frac{8}{15} \div 1\frac{2}{12}$
13.  $\frac{3}{7} \div 1\frac{1}{8}$
14.  $\frac{9}{22} \div \frac{1}{33}$

15.  $1\frac{1}{2} \div 1\frac{2}{3}$
16.  $4\frac{1}{3} \div 2\frac{1}{12}$
17.  $9\frac{1}{3} \div 1\frac{1}{3}$
18.  $4 \div \frac{1}{6}$
19.  $\frac{2}{3} \div \frac{1}{12}$
20.  $3\frac{1}{3} \div 1\frac{1}{15}$
21.  $2\frac{3}{4} \div 1\frac{1}{12}$
22.  $\frac{1}{8} \div 10$
23.  $10 \div \frac{1}{8}$
24.  $3\frac{1}{2} \div 1\frac{1}{18}$
25.  $1\frac{1}{6} \div 1\frac{1}{9}$
26.  $4\frac{1}{3} \div 1\frac{1}{12}$
27.  $7\frac{1}{2} \div 1\frac{3}{4}$
28.  $2\frac{1}{3} \div 1\frac{1}{7}$

29.  $2\frac{2}{7} \div 2\frac{8}{11}$
30.  $1\frac{3}{8} \div \frac{3}{18}$
31.  $8\frac{5}{9} \div 1\frac{1}{3}$
32.  $11\frac{2}{3} \div \frac{9}{10}$
33.  $\frac{1}{3} \div \frac{2}{11}$
34.  $80 \div 4\frac{1}{2}$
35.  $1\frac{3}{8} \div 8$
36.  $7\frac{1}{4} \div 2$
37.  $23\frac{1}{3} \div 10$
38.  $2\frac{5}{14} \div 2\frac{1}{21}$
39.  $21 \div 4\frac{2}{3}$
40.  $16 \div 3\frac{2}{3}$
41.  $1\frac{5}{8} \div 1\frac{1}{4}$
42.  $4\frac{1}{3} \div 9$

More sums on Page 48.

A

- I.  $\frac{2}{3}$  of  $\frac{3}{4}$  =
2.  $\frac{1}{4}$  of  $\frac{5}{6}$  =
3.  $\frac{2}{3} \times 9$  =
4.  $\frac{4}{5} \times 1\frac{5}{6}$  =
5.  $2 \div 4$  =
6.  $3 \div 6$  =
7.  $\frac{1}{2} \div \frac{1}{2}$  =
8.  $\frac{1}{4} \div \frac{1}{8}$  =
9.  $1 - \frac{4}{15}$  =
10.  $2 - \frac{2}{3}$  =

B

1. Find the product of  $\frac{7}{8}$  and  $\frac{8}{21}$ .
2. How many times is  $\frac{1}{2}$  contained in 6?
3. How many times is  $\frac{1}{3}$  contained in  $4\frac{1}{3}$ ?
4. John had  $\frac{1}{2}$  of a sum of money and Mary had half the remainder. What fraction had Mary?
5. Find the cost of  $9\frac{1}{2}$  yd. at 1d. per ft.
6. 6s. 9d. for 3 dozen. Find the cost of one.
7.  $(17+6+33) \times 100$  =
8. Find the cost of 95 articles at 2d. each.

FRACTIONS (*Multiplication and Division*)

1. Find the product of  $6\frac{7}{8}$  and  $3\frac{3}{11}$ .
2. One yard of silk costs 7½s. What will  $\frac{3}{8}$  yd. cost?
3. How many times can  $6\frac{2}{3}$  be taken from  $26\frac{2}{3}$ ?
4. A boy walks for  $2\frac{2}{3}$  hours at the rate of  $2\frac{1}{4}$  miles per hr. How many miles does he walk?
5. Find the cost in pence of  $3\frac{1}{2}$  yd. of cloth at 7½d. per yd.
6. What fraction must be multiplied by  $2\frac{2}{3}$  to get the answer 1?
7. How many times can  $5\frac{1}{2}$  be subtracted from 100?
8. Divide the product of  $3\frac{1}{2}$  and  $3\frac{1}{2}$  by  $1\frac{1}{4}$ .
9. Find  $\frac{3}{8}$  of the difference between  $3\frac{1}{2}$  and  $1\frac{1}{3}$ .
10. How many pieces each  $\frac{5}{8}$  in. long can be cut from a length of 5 yd.?
11. Find  $3\frac{1}{3}$  times the product of  $8\frac{2}{3}$  and  $2\frac{2}{11}$ .
12. How many times does  $3\frac{1}{2}$  contain  $(1\frac{1}{2} + \frac{1}{10})$ ?
13. By what quantity was  $4\frac{2}{3}$  divided to produce  $1\frac{1}{3}$ ?
14. How many times can  $\frac{2}{3}$  of  $3\frac{1}{3}$  be taken from  $3\frac{2}{3}$ ?
15. Mr. Smith lives  $\frac{2}{3}$  of a mile from his works. He does this journey twice each day except Sundays. How many miles does he walk in 4 weeks?
16. Mother made a cake which weighed  $2\frac{1}{2}$  lb. She cut it into 6 equal slices and gave Jimmy half a slice. How many oz. did Jimmy get?
17. An oil stove consumed  $\frac{3}{4}$  gall. of oil in 10 hr. How long will  $1\frac{1}{2}$  gall. last?

A

1.  $1\frac{1}{2} \div 6 =$
2.  $1\frac{1}{2} \times \frac{2}{3} =$
3.  $\text{£}\frac{1}{8} =$
4.  $\frac{3}{8} \text{ lb.} = \text{oz.}$
5.  $1 - \frac{9}{16} =$
6.  $\frac{5}{8} \text{ gall.} = \text{pt.}$
7.  $\frac{1}{2} \text{ ton} = \text{cwt.}$
8.  $12 \times 11\frac{3}{4} \text{ d.} =$
9.  $\frac{7}{8} \div \frac{7}{8} =$
10.  $12 \div \frac{1}{8} =$

B

1. Reduce  $\frac{3}{4}$  to lowest terms.
2. How many hundreds in 775?
3. One side of a square measures  $1\frac{1}{2}$  in. What is the distance all round it?
4. Find the cost of  $1\frac{3}{8}$  lb. at 1d. per oz.
5. Find the product of  $1\frac{1}{4}$  and  $\frac{4}{5}$ .
6. A woman spent  $\frac{2}{3}$  and  $\frac{1}{6}$  of her money. What fraction had she left?
7. How many thousands in 5500?
8.  $(\frac{1}{4} \times \frac{1}{2}) + \frac{1}{16}$ .

## PROBLEMS

1. Multiply the greatest by the least:  $3\frac{1}{2}$ ,  $2\frac{3}{4}$ ,  $3\frac{1}{3}$  and  $2\frac{3}{8}$ .
2. If  $\frac{2}{3}$  of a sum of money is equal to 12s., what is the sum?
3. Find the total weight in tons of 80 soldiers if each weighs on an average  $10\frac{1}{2}$  stone and carries a pack weighing 4 st.
4. A draper had two rolls of cloth each 30 yd. long. He cut both rolls into pieces each  $\frac{3}{4}$  yd. long. How many pieces did he cut altogether?
5. A table is  $4\frac{1}{2}$  ft. long. A cloth is laid on it so that  $1\frac{1}{2}$  ft. of cloth hangs over at each end. How long is the cloth?
6. How often can  $\frac{1}{80}$  be subtracted from the sum of  $3\frac{1}{2}$  and  $2\frac{1}{2}$ ?
7. Add  $2\frac{5}{7}$  to the product of  $1\frac{1}{2}$  and  $2\frac{1}{2}$ .
8. Add together  $3\frac{1}{2}$ ,  $2\frac{2}{3}$  and  $3\frac{3}{4}$  and divide your answer by 3.
9. Tom spent  $\frac{5}{12}$  of his money. How many thirty-sixths had he left?
10. In a mixture weighing  $8\frac{3}{4}$  lb. the dyes weighed  $2\frac{5}{8}$  lb. and the salts  $3\frac{1}{8}$  lb. The rest was oil. What was the weight of the oil?
11. A bottle held  $\frac{1}{2}$  pt. How many times would it have to be filled to measure  $2\frac{1}{4}$  gall.?
12.  $6\frac{1}{8}$  equal loads weigh  $2\frac{3}{16}$  ton. What is the weight per load?
13. What is the value of 1 yd. when  $1\frac{1}{2}$  yd. cost  $1\frac{1}{2}$  s.?
14. How many yd. in  $3\frac{3}{11}$  furlongs?

For tests and more sums see Pages 49, 50, 51, 52, 53.

A

1.  $\frac{2}{3} + \frac{3}{8} =$
2.  $1\frac{1}{2} - \frac{1}{4} =$
3.  $1 \text{ lb. } 3 \text{ oz.} \times 8 =$
4.  $\frac{2}{3} \text{ s.} =$
5.  $\frac{1}{10} \text{ ton} = \text{cwt.}$
6.  $\text{£}\frac{3}{8} =$
7.  $2 - 1\frac{1}{2} =$
8.  $7 \text{ s. } 6 \text{ d.} \times 1\frac{1}{2} =$
9.  $\frac{1}{4} \times \frac{1}{4} =$
10.  $15 \div \frac{1}{2} =$

B

1. Find the cost of 1 lb. at  $\frac{3}{4}$  d. per oz.
2. How many yd. in  $\frac{1}{3}$  of a mile?
3. The distance all round a square is 13 in. How long is each side?
4. Reduce  $\frac{5}{8}$  to lowest terms.
5. Find the cost of  $1\frac{3}{8}$  gall. at 3d. per pt.
6. Find the difference between  $\frac{2}{3}$  and  $\frac{1}{6}$ .
7. Find the sum of  $\frac{1}{2}$  and  $\frac{1}{4}$ .
8. Find the cost of  $1\frac{1}{2}$  st. at 2d. per lb.

## FRACTIONS

1. If  $\frac{3}{8}$  of a sum of money is equal to 24s. find the sum.
2. Find the missing fraction in the following sum  
 $(3\frac{1}{2} + \quad) = 14\frac{1}{2}$ .
3. John had  $\frac{1}{6}$  of a sum of money. Mary and Jack each received  $\frac{1}{3}$  of the money. What fraction was left?
4. A boy's page is  $6\frac{1}{2}$  in. wide. He draws a line that begins  $\frac{2}{3}$  in. from one edge and finishes  $1\frac{1}{2}$  in. from the other edge. How long is the line?
5. A room is  $13\frac{1}{2}$  ft. long. The carpet on the floor is  $\frac{2}{3}$  ft. short at each end. Find the length of the carpet.
6. Mary had  $\frac{1}{3}$  of an apple and Tom  $\frac{2}{3}$  of what was left. Find Tom's share.
7.  $\frac{2}{3}$  of the children in a class were girls. There were 40 children in the class. How many were boys?
8. How many packages of tea each containing  $3\frac{1}{2}$  oz. can be filled from 2 chests each holding  $15\frac{3}{4}$  lb.?
9. A kettle holds  $1\frac{1}{4}$  pt. of water. How many times will it have to be filled to measure  $4\frac{3}{8}$  gall.?
10. A piece of metal  $5\frac{5}{8}$  in. long was welded to another  $8\frac{7}{12}$  in. in length. Allowing  $1\frac{1}{8}$  in. for the welding, what was the total length?
11. What must be added to  $4\frac{5}{6}$  to make it equal to the sum of  $2\frac{1}{2}$  and  $5\frac{1}{3}$ ?
12. How many  $\frac{2}{3}$  hr. are there in 1 day?

For tests and more sums see Pages 49, 50, 51, 52, 53.

A

B

- |                                      |  |
|--------------------------------------|--|
| 1. $217 \times 300 =$                | 1. Find the cost of 2 gross at $2\frac{1}{2}$ d. each.           |
| 2. $6s. 8d. \times 23 =$             | 2. How many books at 3s. 4d. each can I buy with £2 10s.?        |
| 3. $\frac{1}{2}$ guinea $\div 4 =$   | 3. Find the cost of 25 oranges at 5 for 6d.                      |
| 4. $3\frac{1}{2}d. \times 24 =$      | 4. $4\frac{1}{2}$ oz. at 2s. 8d. per lb.                         |
| 5. $106 + 37 - 20 =$                 | 5. Find the cost of 18 eggs at 2s. per doz.                      |
| 6. $319 \times 12 =$                 | 6. How many dozens in $\frac{1}{2}$ gross?                       |
| 7. $3 - 1\frac{5}{8} =$              | 7. $12s. 2\frac{1}{2}d. + 16s. 3\frac{3}{4}d. + 10\frac{1}{2}d.$ |
| 8. $\frac{1}{4}$ of 2s. 11d. $=$     | 8. $\frac{3}{4}$ of half a crown $=$                             |
| 9. $2s. 6d. \times 31 =$             | 9. $1\frac{1}{2}$ yd. at 1s. 11d. per yd.                        |
| 10. $\frac{1}{4}$ of $\frac{1}{4} =$ |  |

## PROBLEMS

- Divide two thousand and seventeen by twenty-six.
- Add together  $1\frac{1}{2}$  guineas, 16 half-crowns, 13 florins and 127 pence.
- How many yards of material at 1s.  $4\frac{1}{2}$ d. per yard can be bought with £2 17s. 9d.?
- A woman had half a hundredweight of coal. What weight is left after 1 week if she uses 7 lb. per day?
- A brick is 9 in. long. Along the top of a wall I count 60 bricks and 72 half-bricks. How long is the wall?
- How many bars of soap weigh 1 ton 6 cwt. when each bar weighs 8 oz.?
- A boy running a mile gave up after going  $\frac{7}{8}$  of the distance. How many yards short of a mile did he run?
- Work out  $\frac{5}{8}$  of a mile giving your answer in yards.
- Jack earned £2 15s. 0d. per week. His brother earned twice as much. They both gave half their wages to their mother. How much did she receive?
- A clock ticks 48 times in 15 seconds. How many times does it tick in an hour?
- A man leaves home at 8.35 a.m. and returns at 12.10 p.m. He leaves again at 12.50 p.m. and returns at 5.40 p.m. How many min. is he away from home?
- What must  $2\frac{1}{8}$  be divided by to make  $1\frac{3}{8}$ ?

For more sums see Pages 51, 52, 53.

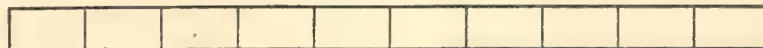


1. Copy the above diagram in your book. You may make it as long and as wide as you please.  
Divide it into inches. Each inch represents 1 whole one.  
Divide each inch into tenths. Each small part will then be  $\frac{1}{10}$  or  $\cdot 1$  of 1 whole one.



Then mark off 10 sections each  $\cdot 3$  in. long.  
(The first three are done for you).

- (a) What is the total length of 10 pieces each  $\cdot 3$  in. long?  
(b) What is the answer to  $\cdot 3 \times 10$  or  $10 \times \cdot 3$ ?
2. Work out by diagrams: (a)  $\cdot 5 \times 10$  (b)  $\cdot 2 \times 10$  (c)  $\cdot 4 \times 10$ .



3. The above diagram is 4 inches long. Copy it in your book. You may make it any width you please. It represents 1 whole one.  
Divide it into 10 equal parts. Then each part is  $\frac{1}{10}$  or  $\cdot 1$  of 1 whole one.  
Cross out 7 of these parts. (a) How many tenths are left?  
(b) Change your answer to a decimal. (c) What is the answer to  $1 - \cdot 7$ ?
4. Either by means of diagrams, or mentally, work out  
(a)  $1 - \cdot 1$  (b)  $1 - \cdot 3$  (c)  $1 - \cdot 8$  (d)  $1 - \cdot 4$ .



5. This diagram is 2 in. long. Copy it in your book. You may make it any width you please.  
Divide it into 2 equal parts. Each part represents 1 whole one.  
Divide each whole one into tenths.  
Cross out 3 of these tenths.  
(a) What decimal fraction have you crossed out?  
(b) What length is left? Give your answer as a decimal.  
(c) What is the answer to  $2 - \cdot 3$ ?

## MENTAL SUMS

A	B	C	D
Express as fractions	Express as decimal fractions		
1. $\cdot 1 =$	1. $\frac{1}{10} =$	1. $2\cdot 6 \times 10 =$	1. $\cdot 1$ of 10s.
2. $\cdot 7 =$	2. $\frac{7}{100} =$	2. $\cdot 263 \times 100 =$	2. $\cdot 3$ of 10 hr.
3. $\cdot 01 =$	3. $\frac{13}{100} =$	3. $\cdot 96 \times 10 =$	3. $\cdot 1$ of £
4. $\cdot 03 =$	4. $\frac{1}{1000} =$	4. $1\cdot 7 \times 100 =$	4. $\cdot 5$ of 1 min.
5. $\cdot 001 =$	5. $\frac{17}{10000} =$	5. $1\cdot 623 \times 1000 =$	5. $\cdot 1$ of 1 ft. 8 in.
6. $\cdot 003 =$	6. $\frac{1}{1000} =$	6. $3\cdot 6 \div 10 =$	6. $\cdot 4$ of 5s.
7. $1\cdot 2 =$	7. $\frac{7}{10} =$	7. $26\cdot 4 \div 100 =$	7. $\cdot 9$ of 1 ton
8. $1\cdot 06 =$	8. $\frac{13}{100} =$	8. $1\cdot 96 \div 10 =$	8. $\cdot 7$ of 1 furlong
9. $2\cdot 12 =$	9. $\frac{8}{100} =$	9. $362\cdot 3 \div 1000 =$	9. $\cdot 6$ of £
10. $6\cdot 013 =$	10. $\frac{8}{100} =$	10. $2\cdot 4 \div 100 =$	10. $\cdot 2$ of 2s. 6d.

A  
ADDITION

1. $2\cdot 632 + 1\cdot 109 + 6\cdot 207$	12. $1\cdot 006 + 3 + 1 + \cdot 26$
2. $25\cdot 126 + 13\cdot 18 + 27\cdot 5$	13. $7\cdot 06 + 28 + 7 + 8\cdot 5$
3. $\cdot 125 + \cdot 008 + \cdot 129$	14. $\cdot 006 + \cdot 06 + 60 + 1\cdot 8$
4. $1\cdot 632 + \cdot 26 + 1\cdot 5 + \cdot 009$	15. $10 + \cdot 1 + 100 + \cdot 06$
5. $\cdot 023 + 1\cdot 6 + 23\cdot 5 + \cdot 7$	16. $23\cdot 5 + 6\cdot 7 + 23 + 1$
6. $1\cdot 09 + \cdot 235 + 1\cdot 62 + \cdot 7$	17. $100 + \cdot 001 + 16 + 1\cdot 8$
7. $\cdot 026 + 9 + 1\cdot 5 + 2\cdot 72$	18. $25 + \cdot 28 + 100 + \cdot 006$
8. $30 + 1\cdot 8 + \cdot 009 + 6\cdot 5$	19. $75 + 6\cdot 7 + \cdot 012 + 18$
9. $7\cdot 62 + 15 + 1\cdot 7 + 2\cdot 06$	20. $\cdot 12 + 1\cdot 2 + 12 + 120$
10. $9 + 2\cdot 8 + \cdot 007 + 6$	21. $200 + 20 + 10 + \frac{1}{100}$
11. $2\cdot 47 + 26 + 1\cdot 006 + 2\cdot 8$	22. $\cdot 012 + 1\cdot 6 + 25 + 10$

B  
SUBTRACTION

1. $3\cdot 627 - 1\cdot 415$	9. $6\cdot 1 - \cdot 008$	17. $9 - \cdot 26$
2. $26\cdot 28 - 18\cdot 63$	10. $96 - 1\cdot 38$	18. $8 - 8$
3. $9\cdot 62 - 3\cdot 27$	11. $57 - 2\cdot 326$	19. $16 - \cdot 9$
4. $26\cdot 27 - 1\cdot 36$	12. $60 - \cdot 8$	20. $6\cdot 1 - \cdot 0182$
5. $9\cdot 62 - \cdot 12$	13. $9 - \cdot 002$	21. $\cdot 08 - \cdot 007$
6. $\cdot 264 - \cdot 003$	14. $2\cdot 5 - \cdot 016$	22. $18 - \cdot 01$
7. $\cdot 8 - \cdot 25$	15. $273\cdot 1 - 1\cdot 628$	23. $26 - \cdot 003$
8. $2\cdot 5 - \cdot 0025$	16. $7 - \cdot 009$	24. $200 - \cdot 005$

More sums on Page 55.

## MENTAL SUMS

1. $1\cdot 6 + 1\cdot 3 + 1\cdot 2 =$	1. $2\cdot 3 \times 4 =$	1. $9 \div 100 =$
2. $2\cdot 7 + \cdot 6 =$	2. $\cdot 26 \times 5 =$	2. $\cdot 016 \div 4 =$
3. $\cdot 12 + 1\cdot 7 =$	3. $1\cdot 304 \times 2 =$	3. $2\cdot 03 \times 7 =$
4. $\cdot 23 + 60 =$	4. $\cdot 04 \times 8 =$	4. $36 \div 10 =$
5. $1\cdot 6 + \cdot 01 =$	5. $3\cdot 9 \times 100 =$	5. $1\cdot 9 + \cdot 63 =$
6. $4\cdot 65 - 1\cdot 32 =$	6. $25\cdot 5 \div 5 =$	6. $2 - \cdot 3 =$
7. $\cdot 13 - \cdot 09 =$	7. $17\cdot 2 \div 4 =$	7. $1\cdot 025 \div 5 =$
8. $2\cdot 96 - \cdot 13 =$	8. $1\cdot 83 \div 3 =$	8. $\cdot 9 + \cdot 003 =$
9. $1\cdot 6 - \cdot 09 =$	9. $\cdot 15 \div 5 =$	9. $2\cdot 6 \div 100 =$
10. $24 - \cdot 6 =$	10. $\cdot 016 \div 2 =$	10. $2\cdot 5 \times 1000 =$

## A. MULTIPLICATION

1. $23\cdot 72 \times 7$	10. $127 \times \cdot 35$	19. $23\cdot 8 \times \cdot 006$	28. $29\cdot 3 \times 1\cdot 07$
2. $1\cdot 003 \times 6$	11. $2\cdot 16 \times 1\cdot 4$	20. $1\cdot 63 \times 1\cdot 7$	29. $1\cdot 62 \times \cdot 012$
3. $\cdot 216 \times 9$	12. $\cdot 136 \times \cdot 12$	21. $\cdot 036 \times 1\cdot 04$	30. $3\cdot 004 \times 17$
4. $1\cdot 643 \times 16$	13. $\cdot 009 \times 13$	22. $2\cdot 73 \times \cdot 005$	31. $\cdot 126 \times \cdot 13$
5. $\cdot 017 \times 28$	14. $12\cdot 3 \times \cdot 07$	23. $\cdot 004 \times \cdot 026$	32. $1\cdot 27 \times \cdot 012$
6. $2\cdot 03 \times 32$	15. $139 \times \cdot 08$	24. $1\cdot 62 \times 123$	33. $\cdot 024 \times \cdot 36$
7. $24\cdot 3 \times 1\cdot 7$	16. $2\cdot 46 \times 1\cdot 7$	25. $132 \times \cdot 012$	34. $1\cdot 65 \times 127$
8. $2\cdot 32 \times 2\cdot 4$	17. $1\cdot 003 \times \cdot 24$	26. $12\cdot 7 \times \cdot 0034$	35. $7\cdot 93 \times 2\cdot 31$
9. $603 \times \cdot 26$	18. $129 \times \cdot 09$	27. $8\cdot 36 \times \cdot 9$	36. $221 \times 1\cdot 04$

## B. DIVISION

Take your answer to 3 decimal places.

1. $12\cdot 6 \div 6$	10. $\cdot 1236 \div 1\cdot 2$	19. $18 \div 1\cdot 6$	28. $\cdot 0129 \div \cdot 9$
2. $2\cdot 79 \div 9$	11. $1\cdot 278 \div 1\cdot 4$	20. $13 \div 2\cdot 5$	29. $36 \div \cdot 012$
3. $25\cdot 2 \div 12$	12. $2\cdot 34 \div \cdot 25$	21. $16 \div 2\cdot 8$	30. $2\cdot 6 \div \cdot 025$
4. $8\cdot 48 \div 8$	13. $\cdot 126 \div 2\cdot 3$	22. $17\cdot 3 \div 15$	31. $7\cdot 362 \div 22$
5. $7\cdot 25 \div 25$	14. $1\cdot 04 \div 1\cdot 7$	23. $120 \div 1\cdot 2$	32. $\cdot 125 \div \cdot 04$
6. $13\cdot 2 \div 24$	15. $\cdot 025 \div 24$	24. $7 \div 16$	33. $\cdot 0369 \div \cdot 009$
7. $2\cdot 64 \div 25$	16. $1\cdot 32 \div 16$	25. $13 \div \cdot 4$	34. $25 \div 2\cdot 9$
8. $35\cdot 7 \div \cdot 7$	17. $7\cdot 26 \div \cdot 18$	26. $2\cdot 6 \div 2\cdot 3$	35. $130 \div 1\cdot 5$
9. $1\cdot 386 \div \cdot 11$	18. $2\cdot 5 \div \cdot 27$	27. $\cdot 125 \div 13$	36. $162 \div \cdot 11$

More sums on Page 55.

## A

*Addition and Subtraction*

1. Find the sum of 2.6, .008, 3.7 and 28.
2. Find the difference between 26 and .6.
3. Write  $7\frac{13}{100}$ ,  $2\frac{3}{10}$  and  $17\frac{1}{1000}$  as decimals and find their sum.
4. Express  $17\frac{1}{100}$  and  $3\frac{13}{1000}$  as decimals and find their difference.
5. Add together the largest and the smallest of the following decimals: 3.01, 3.9 and 3.001.
6. What must be taken from 3.6 to leave 1.09?
7. John had .3 of a sum of money and Tom .2 more than John. What decimal fraction had they altogether?
8. Write as a decimal eleven thousandths.
9. Subtract the smallest from the largest of the following decimals: 26.6, 26.009, 26.03.
10. A piece of string measures 3.6 in., and a second piece is .9 in. shorter. Find the total length of the two pieces.

## B

*Multiplication and Division*

1. Find the product of 2.6 and .04.
2. Find the cost of 30 books if each book costs 3.5s.
3. How often is .36 contained in 7.2?
4. A metre is 39.37 in. long. Find the length in inches of 2.1 metres.
5. Add 2.6 times .04 to 27 times 1.3.
6. Find  $\frac{1}{8}$  of 1.3.
7. What is .26 times 8.4?
8. Find  $\frac{1}{16}$  of 2.4.
9. Share £1.664 equally among 16 men.
10. Multiply 64.2 by 1.6 and divide your answer by 10.
11. How many times can 5.3 be taken from 56.71?
12. Multiply  $26\frac{7}{10}$  by  $37\frac{13}{100}$  (using decimals).

## A

1.  $1.6 + .9 =$
2.  $1.4 - .8 =$
3.  $1.3 \times 6 =$
4.  $2.56 \div 4 =$
5.  $7.3 \times 100 =$
6.  $.24 \div 1000 =$
7.  $.26 \times 1000 =$
8.  $1.3 \div 100 =$
9.  $.05 + .9 =$
10.  $1 - .7 =$

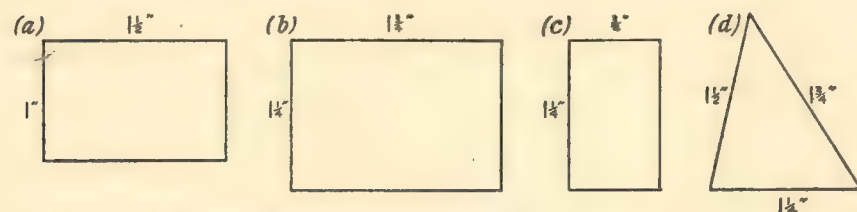
## B

1. Express as a fraction .07.
2. Express as a decimal  $\frac{13}{1000}$ .
3. A man spent .3 of his money. What decimal fraction had he left?
4. £.3 = shillings.
5. A woman spends .1 of 10 shillings. How much has she left?
6. A man walks 10.6 miles in 5 hours. How many miles is that per hour?
7. Express as a vulgar fraction 1.03.

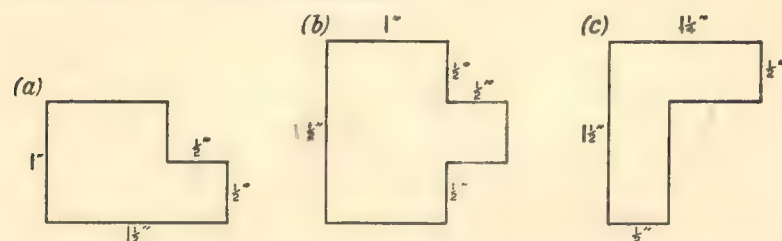
## PROBLEMS

1. From the product of 2.5 and 1.9, take .7.
2. Multiply the sum of .2, 10.1 and 9 by .5.
3. How many miles could I walk in 2.6 hours at the rate of 3.1 miles per hour?
4. A merchant had three bags of sugar, holding respectively 10.8 lb., 12 lb. and 11.9 lb. He sold 21.5 lb. What weight had he left?
5. A lady bought 6.4 yd. of silk at one shop and 5.9 yd. at another. She used 4.8 yd. What length had she left?
6. Find, in pence, the total cost of 5.4 yd. of material at 5.5d. per yard, and 1.9 yd. at 50d. per yard.
7. A train went for 1.8 hours at 30.8 miles per hour and for 2.3 hours at 25.4 miles per hour. How many miles did it go altogether?
8. Add .9 to the difference between .34 and 10.
9. If 4.8 yd. of cloth cost 21.6d., find the cost of each yard.
10. For how many hours must a boy work to earn 10.4s., if he earns 1.6s. each hour?
11. How many times can .8 be taken from 64?
12. A lady uses .85 oz. of sugar in making one cake. If she uses 14.45 oz., how many cakes does she make?
13. What number multiplied by 3.9 will give the answer 10.53?
14. Place the following in order, the largest one first, .8, 80, .08, 8.8, 800. Then multiply the largest by the smallest.

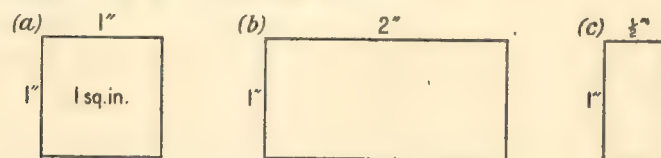
1. Draw the following figures to sizes shown, then measure and write down their perimeters.



2. Copy the following figures in your book. Then work out their perimeters.



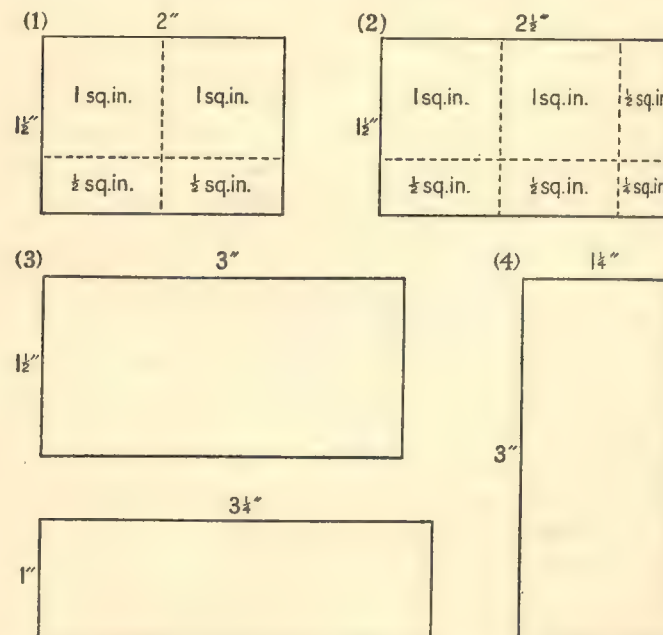
3. Find the perimeters of rectangles with the following measurements:—  
 (a) Length=3 in. Width=5 in. (b) Length=3 1/4 in. Width=2 1/2 in.  
 (c) Length=1 1/2 ft. Width=3/4 ft.



4. Figure (a) shows you what 1 square inch is. Copy figure (b). Divide it into 2 squares. What is the area of each square? What is the area of the whole figure? What is the area of figure (c)?
5. Your team captain will now cut from a sheet of newspaper a square with a side 1 foot. The area of this square is 1 square foot.
6. What are the areas of rectangles with the following measurements:—
- | Length    | Width | Length    | Width   |
|-----------|-------|-----------|---------|
| (a) 2 ft. | 1 ft. | (b) 1 ft. | 1/2 ft. |

For more sums see Page 58.

In your book, draw the following rectangles to sizes shown. Then divide them into square inches (the first two are done for you). Then write down the areas of the rectangles.



6. Work out the areas of rectangles with the following measurements:—  
 (a) Length 1 3/4 in. Width 1 in. (b) Length 4 1/2 in. Width 2 1/2 in.  
 (c) Length 5 1/2 in. Width 1/2 in.
7. Draw a square with a side 2 1/2 inches. Then divide it into square inches and parts of a square inch, as you divided the rectangles at the top of this page. What is the area of this square? Work out:— $2\frac{1}{2} \times 2\frac{1}{2}$ . Compare your two answers.
8. Either by drawing or by calculation, work out the areas of squares, the sides of which measure:—  
 (a) 1 1/2 inches (b) 5 1/2 inches (c) 3.5 inches (d) 1/2 inch.

A	B
1. 72 sq. in. = sq. ft.	1. Find the distance round a square of $7\frac{1}{4}$ in. side.
2. $\frac{1}{4}$ sq. ft. = sq. in.	2. Width = $5\frac{1}{2}$ in. Length = 6 in. Find the perimeter.
3. 3 sq. yd. = sq. ft.	3. Find the area of an oblong piece of paper $4\frac{1}{2}$ in. long and 2 in. wide.
4. 27 sq. ft. = sq. yd.	4. Find the cost of $\frac{1}{2}$ sq. ft. at $\frac{1}{2}$ d. per sq. in.
5. 1 acre = sq. yd.	5. Find the area of a square of 6 in. side.
6. $\frac{1}{2}$ sq. yd. = sq. ft.	6. The length of a rectangle is twice as great as the breadth. If the breadth is 7 in. find the area.
7. 3 sq. yd. 5 sq. ft. $\div$ 2	
8. 2 sq. ft. 72 sq. in. $\times$ 4	
9. $\frac{1}{2}$ acre = sq. yd.	
10. $\frac{1}{8}$ sq. yd. = sq. ft.	

PROBLEMS (*Perimeter and Area*)

- Reduce 2 sq. yd. 1 sq. ft. 16 sq. in. to sq. in.
- Bring 1264 sq. in. to sq. ft.
- 4 sq. yd. 7 sq. ft. +  $10\frac{1}{2}$  sq. ft. + 5 sq. yd.  $7\frac{1}{4}$  sq. ft.
- From the given measurements find (a) the perimeters and (b) the areas of the following rectangles:—
 

(a) Length = 2 ft. 6 in.	Width = 1 ft. 6 in.
(b) „ = 3 ft. 8 in.	„ = 2 ft. 6 in.
(c) „ = 3 ft.	„ = 18 in.
(d) „ = 4 yd.	„ = 9 ft.
(e) „ = 3 yd. 1 ft.	„ = 2 yd. 1 ft. 6 in.
- Find the perimeter and area of a square the side of which measures  $10\frac{1}{2}$  inches.
- On to a leaf in his album a boy pasted 36 picture cards each of which measured 2 in by  $\frac{3}{4}$  in. Find the total area covered by the cards.
- A machine can cut 288 cards each  $1\frac{1}{4}$  in. by  $1\frac{3}{4}$  in. out of a sheet of paper. What is the area of the sheet?
- A square plot of land has a side measuring 20 yd. Trees are planted along the sides 2 yards apart. How many trees are planted?
- How many stones each 1 foot square would be required to cover a courtyard measuring 20 yd. by 17 yd.?
- A plot of land measures 48 ft. by 70 ft. On one part of it measuring 29 ft. by 30 ft. a greenhouse is built. How many sq. ft. are left?

For more sums see Page 58

A	B
1. $.96 \div 10$ =	1. Find the cost of 240 articles at $3\frac{1}{2}$ d. each.
2. $.2 \times .3$ =	2. $\frac{1}{2}$ gross of nibs at $\frac{3}{4}$ d. each.
3. $\frac{1}{3} + \frac{1}{3} + \frac{1}{3}$ =	3. 450 articles at 3d. per hundred.
4. 1 lb. $3\frac{1}{2}$ oz. at 1s. 4d. per lb. =	4. Find the cost of 480 articles at $2\frac{1}{4}$ d. each.
5. 6s. 8d. $\times$ 29 =	5. Find the cost of $\frac{1}{2}$ cwt. of potatoes at $1\frac{1}{2}$ d. per lb.
6. $\pounds\frac{1}{8} + \pounds\frac{1}{8}$ =	6. Oranges are 2 for 3d. How many can I buy with 2s. 9d.?
7. $\pounds.875$ +	7. Write in figures $\frac{1}{4}$ of a million.
8. $\frac{3}{4}$ sq. ft. = sq. in.	
9. $\frac{1}{2}$ ton = lb.	
10. $1631 \times 70$ =	

## PROBLEMS

- Find the cost of  $1\frac{1}{2}$  cwt. of coal at 7 lb. for 3d.
- Reduce 6 sq. yd. 7 sq. ft. 16 sq. in. to sq. in.
- How many lengths each 2 ft. 3 in. long can be cut from 36 yards?
- 1 sq. yd. 3 sq. ft. 48 sq. in.  $\times$  21.
- Bill. 3 lb. 8 oz. of margarine at 10d. per lb.  
4 yd. 1 ft. 6 in. at 1s. 6d. per yard.  
3 pt. at 1s. 8d. per gallon.  
10 eggs at 1s. 9d. per dozen.
- Work out  $(4\frac{1}{2} \times 2\frac{3}{4}) - 10\frac{1}{4}$ .
- How many books at 8s. 9d. each can I buy with seven ten-shilling notes?
- What is left when  $\frac{1}{10}$  of 3 half-crowns is taken from  $1\frac{1}{2}$  guineas?
- Find the difference between 1267 fourpences and 1326 threepences.
- A woman burns  $\frac{1}{2}$  cwt. of coal in 2 days. How long will  $1\frac{1}{2}$  tons last?
- Find the total weight in lb. of 64 packets of oats. Each packet when empty weighs  $\frac{1}{16}$  lb. and holds  $\frac{1}{2}$  lb. of oats.
- Add in decimals,  $3\frac{1}{2}$ ,  $4\frac{1}{8}$ ,  $\frac{1}{10}$  and  $\frac{1}{100}$ .
- Find the weight of 3 dozen jars of pickles if each weighs  $2\frac{5}{8}$  lb.
- A man did  $\frac{1}{3}$  of a job one day,  $\frac{1}{4}$  the next and  $\frac{1}{8}$  the next. What fraction of the work has he still to do?

For tests and more sums see Pages 56, 57, 59, 60, 61, 62, 63, 64.

A

1.  $\pounds \frac{1}{2} + \pounds \frac{1}{3}$  =
2.  $4d. \times 73$  =
3.  $1s. 3d. \times 1\frac{1}{2}$  =
4.  $\cdot 15 \div 1000$  =
5.  $\frac{3}{4}$  of 120 =
6.  $\pounds \cdot 75$  =
7.  $\cdot 25$  of a shilling
8.  $\cdot 9$  of a  $\pounds$  =
9. 5 pt. at 1s. 8d. per gall. =
10.  $\frac{1}{4}$  of 2s. 11d. =

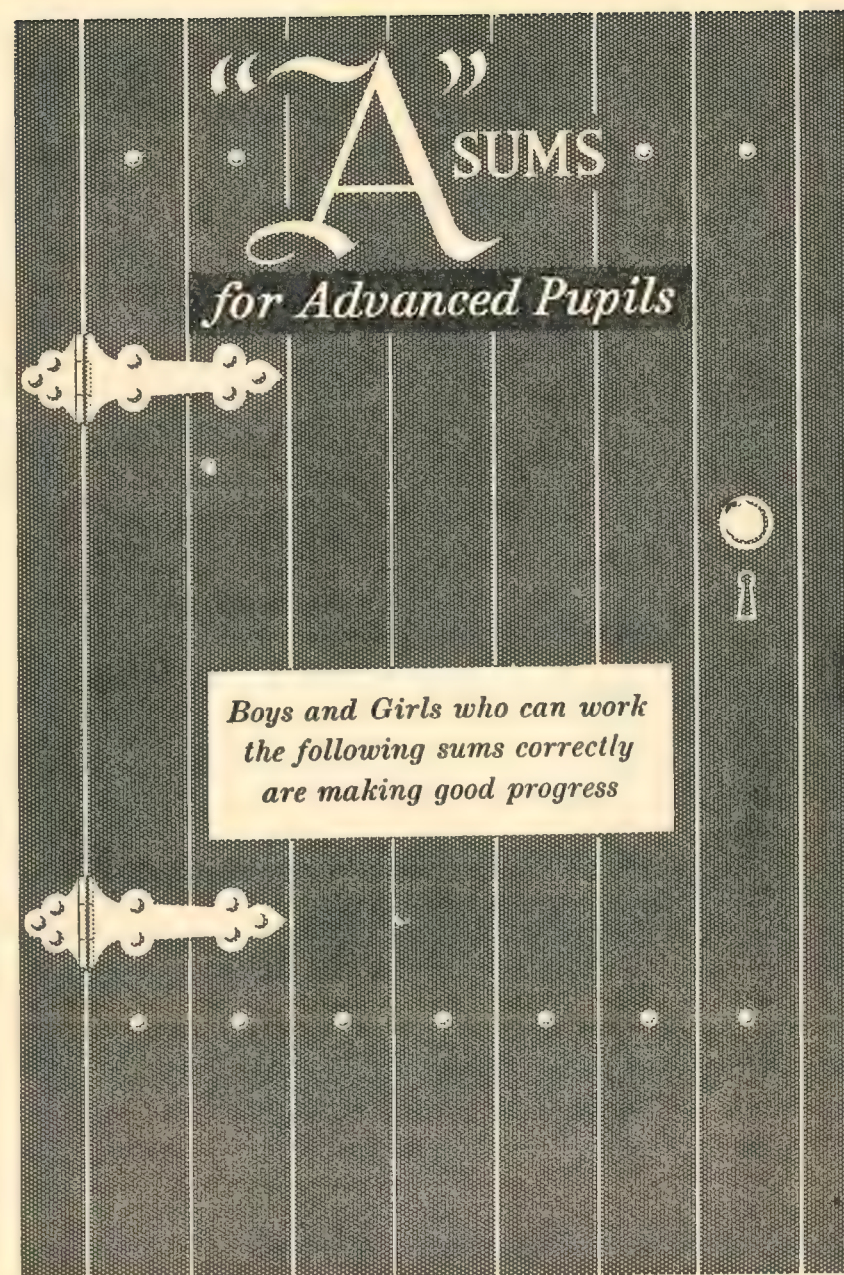
B

1. Find the area of a rectangle 12 ft. long and 3 yd. wide. (Ans. in sq. yd.)
2. Find the cost of  $\frac{3}{4}$  yd. of cotton at 2s. 6d. per yard.
3. How often is 1s. 3d. contained in  $\pounds 1$  5s. 0d.?
4. Find the cost of 1 ton at 2s. 6d. per cwt.
5. Find the cost of 13 oz. at 2s. 0d. per lb.
6. A rectangular piece of paper is 6 in. long. Find its area if the length is equal to twice the width.

## PROBLEMS

1. Work out  $(2\frac{1}{10} + \frac{3}{4} + 1\frac{1}{5}) \div 2\frac{1}{10}$ .
2. Divide the product of 3.12 and 2.7 by 1.8.
3. Add up 1 sq. yd. 4 sq. ft. 100 sq. in., 2 sq. yd. 8 sq. ft. 47 sq. in., and 1 sq. yd. 5 sq. ft. 91 sq. in.
4. How many yards of ribbon at  $6\frac{1}{2}d.$  per yard can be bought for  $\pounds 1$  5s.  $5\frac{1}{2}d.$ ?
5. 120 tickets were sold at 1s. 6d. each. Find the total amount of money left after  $2\frac{1}{2}d.$  tax was paid on each ticket.
6.  $\pounds \frac{3}{4} + \pounds \frac{1}{8} + \pounds \frac{5}{8} + \frac{1}{8}$  of a shilling.
7. A floor of a room measures 11 ft. 6 in. by 10 ft. 9 in. Find the total area of the floor and the ceiling.
8. Add  $\cdot 24$ ,  $\cdot 001$  and  $\cdot 36$  and take your answer from unity.
9. How many rolls at 4 for 6d. can I buy with  $4\frac{1}{2}$  guineas?
10. A man sold  $\frac{1}{4}$ ,  $\frac{1}{2}$  and then one eighth of a quantity of oil. How many gallons had he left out of 192 pints of oil?
11. To cart a load of bricks 5 miles costs 11s. 3d. Find the cost of carting 2 loads for 10 miles.
12. Bill. 36 lb. at 3s. 9d. per lb.  
 $5\frac{1}{2}$  qt. at 3d. per pt.  
 350 articles at 8d. per 100.  
 6 score at 5 for 6d.

For tests and more sums see Pages 56, 57, 59, 60, 61, 62, 63, 64.



A

- I. £26 14s. 6½d. + £136 15s. + 14s. 9½d. + £126 13s. 2¼d.
2. 12632 ÷ 12.
3. £36 14s. 2½d. × 37.
4. 1269 × 106.
5. £129 9s. 4½d. ÷ 13.
6. Reduce 1067 pence to £ s. d.
7. 726 + 1000 + 37 + 9.
8. 13 hr. 14 min. 16 sec.—7 hr. 19 min. 24 sec.
9. 6 yd. 2 ft. 7 in. × 5.
- IO. 1037 × 126.
- II. £39 16s. 3½d. ÷ 24.
12. Reduce 3½ guineas to sixpences

B

- I. 3 gall. 2 qt. + 5 gall. 1 qt. 1 pt. + 14 gall. 1 qt. + 3 qt. 1 pt.
2. £36 13s. 11½d. × 12.
3. Reduce £10 16s. 2d. to two-pences.
4. 1263 + 100 + 37 + 9.
5. 51680 ÷ 38.
6. 13 st. 4 lb. 12 oz. ÷ 6.
7. £401 8s. 3¾d. ÷ 39.
8. 13 st. 2 lb. 7 oz.—9 st. 7 lb. 8 oz.
9. 19 hr. 30 min. 6 sec. ÷ 6.
- IO. 4173 ÷ 39.
- II. 1000—137.
12. £216 13s. 2d. ÷ 9.

C

- I. £136 17s. 2¼d. + 18s. 9¾d. + £140 + £17 16s. 4½d.
2. £49 6s. 11½d. × 14.
3. Reduce £13 6s. 8d. to four-pences.
4. £29 16s. 3¼d. ÷ 9.
5. £6 17s. 8¼d. ÷ 45.
6. 736 + 100 + 6 + 1000.
7. 49400 ÷ 19.
8. £156 13s. 4½d. + £129 16s. + 17s. 11½d. + £126 15s. 3¼d.
9. £27 10s. 8½d. × 39.
- IO. 16723 ÷ 16.
- II. Reduce 7265 sixpences to £ s. d.
12. £126—13s. 4¾d.

D

- I. 2 qr. 3 lb. 6 oz. + 7 lb. 13 oz. + 1 qr. 10 lb. 5 oz.
2. £16 13s. 10½d. × 37.
3. 14126 ÷ 28.
4. £455 7s. 7d. ÷ 26.
5. £100—2s. 7½d.
6. 7647 + 19 + 127—263.
7. Reduce 4 guineas to halfpence.
8. 13 yd. 2 ft. 9 in.—7 yd. 1 ft. 10 in.
9. 28143 ÷ 14.
- IO. Reduce £13 14s. 7½d. to three-halfpences.
- II. £740 3s. 6½d. ÷ 37.
12. 8000—9.

A

- I. 13 qr. 1 st. 13 lb. + 6 qr. 2 lb. + 4 qr. 1 st. 12 lb.
2. 93624 ÷ 37.
3. 20 ml.—3 ml. 7 fur. 9 ch.
4. Reduce 1263 half-crowns to £ s. d.
5. 9 ch. 7 yd. 13 in. × 27.
6. £36 12s. 2½d. × 12.
7. Reduce 1264 yd. to fur. ch. yd.
8. £136 14s. 7½d. + 19s. 11¾d. + £100 10s. 10d. + 11¼d.
9. 9360—125.
- IO. £310 13s. 4d. ÷ 22.
- II. Reduce 7 fur. 6 ch. 13 yd. to yd.
12. 1263 × 126.

B

- I. 3 ml. 7 fur. + 6 fur. 6 ch. + 14 ml. 7 fur. 8 ch.
2. £600—17s. 2¼d.
3. 12634 ÷ 39.
4. Reduce 9 hr. 13 min. 17 sec. to sec.
5. £36 15s. 2½d. × 16.
6. 126 cwt. 3 qr. 11 lb. × 29.
7. 15 st. 13 lb.—2 st. 13 oz.
8. 13 pk. 1 gall. 3 qt. + 12 pk. 2 qt. + 15 pk. 1 gall. 2 qt.
9. Reduce 1½ guineas to pence.
- IO. 713 ml. 7 fur. 6 ch. ÷ 35.
- II. Reduce £16 13s. 9d. to three-halfpences.
12. £136 15s. 2½d. ÷ 9.

C

- I. £900 + 16s. 8½d. + £1,000 15s. + £100 13s. 10½.
2. Reduce 2136 qt. to bush. pk. gall. qt.
3. 6372 + 126 + 100 + 10.
4. 17 pk. 1 gall. 3 qt. × 36.
5. £627 13s.—19s. 11½d.
6. £29 12s. 2¼d. × 25.
7. Reduce 1263 sixpences to £ s. d.
8. 12 dy. 13 hr. + 7 dy. 39 min. + 9 dy. 15 hr. 43 min.
9. £393 13s. 5¼d. ÷ 28.
- IO. 163 bush. 3 pk. 1 gall. ÷ 16.
- II. Reduce 1263 farthings to £ s. d.
12. 93642 ÷ 43.

D

- I. £129 15s. 6¾d. + £126 13s. 2½d. + 10¾d. + £1263 15s.
2. 243 yr. 16 wk. 6 dy. × 24.
3. 2167 × 138.
4. £17 13s. 10½d. × 53.
5. Reduce 12 cwt. 1 qr. 13 lb. to lb.
6. £216 13s. 6d. ÷ 11.
7. £1000—£6 15s. 2½d.
8. 12 qr. 1 st. 12 lb. + 3 qr. 11 lb. + 5 qr. 1 st. 13 lb.
9. Reduce 9672 min to wk. dy. hr. min.
- IO. 2167 + 86 + 9 + 1363.
- II. £196 13s. 2½d. ÷ 17.
12. 723 wk. 5 dy. 13 hr. ÷ 35.

- A**
1. 21 ton 17 cwt. 2 qr. 8 lb. + 19 cwt. 3 qr. 17 lb. + 36 ton 1 qr. 20 lb.
  2.  $26883 \div 87$ .
  3. 31 miles 7 fur. - 19 ml. 1 fur. 3 ch.
  4. Reduce 8161 three-halfpences to £ s. d.
  5. 2 fur. 9 ch. 19 yd.  $\times 39$ .
  6. £43 0s.  $9\frac{3}{4}$ d.  $\times 26$ .
  7. Reduce 2 ml. 4 fur. 3 ch. to chains.
  8. £410 15s. 2d. + £1 3s.  $11\frac{1}{4}$ d. + £98 11s.  $2\frac{1}{4}$ d. + 19s.  $6\frac{3}{4}$ d.
  9.  $10010 - 741$ .
  10. £569 12s.  $10\frac{1}{2}$ d.  $\div 54$ .
  11. Reduce 1961 yd. to fur. ch. yd.
  12.  $2109 \times 257$ .

- B**
1. 18 ml. 3 fur. 9 ch. + 7 fur. 3 ch. + 5 ml. 1 fur. + 1 ml. 3 fur. 7 ch.
  2. £764 10s. - £78 15s.  $10\frac{1}{2}$ d.
  3.  $46610 \div 79$ .
  4. Reduce 59,519 sec. to hr. min. sec.
  5. £47 9s.  $0\frac{3}{4}$ d.  $\times 21$ .
  6. 10 tn. 8 cwt. 3 qr.  $\times 47$ .
  7. 1 qr. 12 lb. 7 oz. - 13 lb. 14 oz.
  8. 2 bush. 3 pk. 1 gall. + 2 pk. 1 gall. + 1 bush. 1 pk. 3 qt. + 1 gall. 2 qt.
  9. Reduce 9072 threepcs. to £ s. d.
  10. 1140 ml. 4 fur. 5 ch.  $\div 55$ .
  11. Reduce £29 17s. 8d. to fourpences.
  12. £236 18s.  $5\frac{3}{4}$ d.  $\div 11$ .

- C**
1. 13 dy. 10 hr. 18 min. + 9 hr. 41 min. + 18 hr. 32 min. + 1 dy. 12 hr. 27 min.
  2. Reduce 14080 pt. to gallons.
  3.  $9,002 + 788 + 36 + 4600$ .
  4. 3 pk. 1 gall. 1 qt.  $\times 51$ .
  5. 19 ton. 3 cwt. 3 qr. - 18 cwt. 1 qr. 10 lb.
  6. £18 12s.  $2\frac{3}{4}$ d.  $\times 74$ .
  7. Reduce 3646 fourpences to £ s. d.
  8. 4 hr. 40 min. 11 sec. + 19 hr. 13 min. + 39 min. 51 sec. + 3 hr. 11 min. 27 sec.
  9. £993 8s. 0d.  $\div 32$ .
  10. 267 bush.  $\div 24$ .
  11. Reduce £12 10s. to halfpence.
  12.  $254734 \div 67$ .

- D**
1. £210 13s. + £19 4s.  $7\frac{1}{4}$ d. +  $11\frac{1}{2}$ d. + £108 4s.  $8\frac{3}{4}$ d. + 17s.  $2\frac{1}{4}$ d.
  2. 1 day 8 hr. 31 min.  $\times 36$ .
  3.  $4087 \times 205$ .
  4. £29 17s.  $5\frac{1}{4}$ d.  $\times 91$ .
  5. Reduce 1603 oz. to qr. lb. oz.
  6. £584 7s.  $1\frac{3}{4}$ d.  $\div 34$ .
  7. £2,001 11s. - £19 18s. 9d.
  8. 17 qr. 1 st. 13 lb. + 8 qr. 1 st. 4 lb. + 1 st. 11 lb. + 5 qr. 1 st. 9 lb.
  9. Reduce 2 wk. 5 dy. to hours.
  10.  $3906 + 54 + 737 + 4 + 1809$ .
  11. £91 3s.  $7\frac{3}{4}$ d.  $\div 247$ .
  12. 208 wk. 4 dy. 16 hr.  $\div 48$ .

- | <b>A</b>                                 | <b>B</b>  |
|--|---|
| 1. $39 \times 11 =$                      | 1. How many stones in 1 cwt.?                               |
| 2. £5 - £3 17s. 2d. =                    | 2. 1s. 6d. per gross. How much per dozen?                   |
| 3. $750 \div 25 =$                       | 3. $(9 \times 1\frac{1}{2}d.) + (8 \times 2d.) =$           |
| 4. 17s. = threepences.                   | 4. How many seconds in $1\frac{1}{2}$ mins.?                |
| 5. £5 17s. 6d. = h.-crns.                | 5. If I save 1d. per day, how much shall I save in 9 weeks? |
| 6. $33 \text{ lb.} \div 16 =$            | 6. Find cost of 63 books at 4d. each.                       |
| 7. $£4 \div 6 =$                         | 7. 3 lb. 8 oz. at 8d. per lb. =                             |
| 8. Reduce $2\frac{1}{2}$ gns. to £ s. d. | 8. 400 at 7s. per hundred =                                 |
| 9. Reduce 3 gall. to half-pints          | 9. $\frac{1}{2}$ ml. in 10 min. How many miles per hr.?     |
| 10. Reduce 96 far. to shillings          |   |

## PROBLEMS

- A**
1. How many yards of cloth will be required for 18 garments, if each garment takes 2 yd. 8 in. of cloth?
  2. To the product of 1604 and 307 add one thousand one hundred and nine.
  3. A woman had 6 stones of potatoes. If she uses 5 lb. each day, what weight would she have left after a fortnight?
  4. My electric light for a quarter of a year came to £2 7s.  $1\frac{1}{2}$ d. How much is that for each week?
  5. Three new pennies weigh 1 ounce. Find the weight of ten shillings-worth of pennies.

- B**
1. A nautical mile is 6080 feet. By how many feet is 9 nautical miles longer than 10 miles?
  2. A milkman sold 28 gall. 1 qt. 1 pt. of milk in all. He sold 104 half-pint bottles, and all the rest in pint bottles. How many pint bottles did he sell?
  3. How many crayons at 10 for 1s. could I buy with £1 12s.?
  4. From a plank, 5 pieces, each 1 ft. 11 in. long, are cut and a piece 6 in. long is left over. How long was the plank?
  5. A baker's boy carried 15 loaves, each weighing 3 lb. 7 oz., and 18 half-pound bags of flour. What total weight did he carry?

## A

1. I spent 11s. 7d. in buying books, some of which were 3d. each and some 2d. each. How many twopenny books did I buy, if I bought 33 threepenny ones?
2. Twelve halfpennies placed in a row measure 1 foot. How far will two shillingworth of halfpennies reach?
3. Find in yards the total width of 18 tennis courts if a width of 47 feet is allowed for each court.
4. A merchant had 10 loads of coke, each load consisting of 1 ton 12 cwt. He sold 26 half-hundredweight sacks. What weight had he left?
5. A bank clerk paid out £5 in half-crowns, florins and sixpences. There were 17 half-crowns and 7 sixpences. How many florins were there?

## B

1. A school consists of 7 rooms and a hall. Each room has 3 windows, while the hall has 6. Each window has 15 panes. How many panes are there in the school?
2. Find the total cost of 2 collars at 3s. 9d. each, 4 studs at 8½d. each and 5 handkerchiefs at 1s. 11d. each.
3. I bought 5 bundles of sticks for 3s. 9d. There were 12 sticks in each bundle. Find the cost of each stick.
4. From the sum of two thousand and eight, ninety-six and ten thousand and twenty-seven, take nine.
5. A row of 51 chairs measures 21 yd. 9 in. What space is occupied by each chair?

## C

1. A lorry weighs 1 ton 9 cwt. and carries 1 ton 3 cwt. 2 qr. of coal. Find the weight of 11 such lorries.
2. Find the cost of 12000 bricks at 27s. per thousand.
3. How much will it cost me to send out 120 circulars, if the envelopes and paper cost 3s. and the stamps cost 1½d. each?
4. At a bazaar, adults paid 3d. each and children 2d. each. 480 people paid, and half these were children. How much money was taken?
5. Marbles are 3 for 2d. How many can be bought for 7½ guineas?

## A

1. £  $\frac{1}{12}$  =
2. £  $\frac{1}{4}$  =
3. 3½d. × 240 =
4. 5s. × 35 =
5. £1 6s. 5½d. ÷ 5 =
6.  $\frac{4}{50}$  of 160 =
7. 13 × 25 =
8. £3—2s. 11½d. =
9. 1½ million =
10. Gross at 2½d. per doz. =

## B

1. Postcards are 2 for 1½d. How many can I buy with 1s. 6d.?
2. How many dozens in 2½ gross?
3. £1 6s. 3d. + 17s. 2½d. + 9d.
4.  $\frac{3}{4}$  of 5 shillings =
5. How many half-crown dolls can I buy with £10 15s.?
6. If 1½ gall. cost 3s. find the cost of 1 pt.
7. How often can I take  $\frac{1}{3}$  from 6  $\frac{2}{3}$ ?
8. 96 × 11 =

## PROBLEMS

## A

1. How many  $\frac{1}{2}$  oz. packets of tea can be made from 2 cases, one holding 3 qr. 13 lb. and the other 19½ lb. of tea?
2. A barrel holds 28 gall. of water. Three men each take 7 pt. How much water is left? (Ans. in gall. qt. pt.)
3. A merchant has 1 ton 10 cwt. of firewood. He sells half of it at 2s. 8d. per cwt. and the rest at 2s. 10d. per cwt. What are his total takings?
4. From two hundred thousand one hundred and eight, take ninety-six.
5. Deduct 13½ guineas from £204 9s. 9d. and share the rest equally among 29 people.

## B

1. A boy was able to work 4 mental sums in 3 min. How many did he work from 11.35 a.m. to 12.5 p.m.?
2. A milkman sets out with 80 gall. of milk. He sells 25 pints and 38 half-pints. How much milk has he left?
3. A coal merchant bought 20 ton of coal. He sold 5 ton 10 cwt. and 8 ton 15 cwt. He then bought another load of 10 ton. How much coal has he now?
4. £2  $\frac{3}{4}$  + 12½ guineas + £  $\frac{1}{12}$  + £  $\frac{1}{4}$ .
5. Find the sum of 93 sixpences, 123 twopences, 73 half-crowns and 100 florins.

## A

1.  $\frac{1}{4} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8}$
2.  $\frac{2}{3} + \frac{5}{8} + \frac{1}{12}$
3.  $\frac{5}{8} + \frac{2}{3} + \frac{7}{12} + \frac{1}{2}$
4.  $1\frac{2}{3} + \frac{5}{8} + \frac{1}{8}$
5.  $2\frac{1}{2} + 1\frac{5}{7} + \frac{3}{4}$
6.  $3\frac{3}{10} + 1\frac{1}{5} + 7\frac{1}{2}$
7.  $14\frac{1}{11} + 10\frac{1}{12} + \frac{1}{2}$
8.  $8\frac{2}{13} + 1\frac{1}{4} + 10\frac{1}{2}$

9.  $\frac{5}{8} - \frac{1}{8}$
10.  $\frac{8}{11} - \frac{1}{12}$
11.  $\frac{9}{10} - \frac{3}{18}$
12.  $10\frac{2}{3} - 5\frac{2}{3}$
13.  $3\frac{5}{8} - 1\frac{7}{8}$
14.  $5\frac{1}{3} - 4\frac{4}{11}$
15.  $8 - 1\frac{7}{8}$
16.  $3\frac{1}{5} - 1\frac{7}{12}$

17.  $2\frac{1}{2} + \frac{7}{8} - \frac{3}{4}$
18.  $10 - \frac{1}{12} + \frac{5}{8}$
19.  $10 - (\frac{1}{12} + \frac{5}{8})$
20.  $4 + (\frac{9}{10} - \frac{3}{8})$
21.  $2\frac{5}{16} + \frac{1}{4} - 1\frac{3}{8}$
22.  $\frac{1}{10} - \frac{1}{7} + \frac{7}{10}$
23.  $3\frac{7}{9} + 3\frac{5}{8} - 3\frac{1}{18}$
24.  $10 - \frac{1}{8}\frac{1}{9}$

## B

1.  $\frac{5}{8} \times \frac{4}{7}$
2.  $\frac{1}{2} \times \frac{3}{8} \times \frac{3}{4}$
3.  $\frac{7}{10} \times \frac{5}{11}$
4.  $\frac{6}{13} \times 1\frac{2}{3} \times 9$
5.  $2\frac{1}{4} \times 1\frac{1}{8}$
6.  $3\frac{1}{3} \times 2\frac{2}{3}$
7.  $1\frac{1}{2} \times \frac{6}{11} \times \frac{7}{8}$
8.  $1\frac{7}{8} \times 1\frac{3}{4} \times 1\frac{1}{2}$

9.  $\frac{3}{4} \div \frac{7}{10}$
10.  $\frac{5}{9} \div \frac{10}{11}$
11.  $2\frac{2}{3} \div 1\frac{1}{2}$
12.  $10 \div \frac{5}{8}$
13.  $\frac{9}{18} \div 18$
14.  $1\frac{7}{8} \div 1\frac{1}{4}$
15.  $5\frac{4}{5} \div 3\frac{1}{5}$
16.  $2\frac{3}{4} \div 2\frac{5}{8}$

17.  $\frac{3}{4} \times \frac{3}{4} \div \frac{7}{8}$
18.  $2\frac{2}{3} \div \frac{8}{9} \times 2\frac{1}{3}$
19.  $1\frac{1}{11} \div 2\frac{2}{3} \times 2$
20.  $4\frac{1}{2} \times 3\frac{1}{2} \div 2\frac{1}{2}$
21.  $12 \div \frac{4}{5} \div 3\frac{1}{3}$
22.  $\frac{2}{7} \times \frac{3}{8} \div \frac{5}{14}$
23.  $10 \times \frac{1}{8} \div \frac{1}{4}$
24.  $\frac{2}{3} \times 1\frac{1}{20} \div \frac{7}{48}$

## C

1.  $(\frac{2}{3} + \frac{5}{8}) \times \frac{3}{4}$
2.  $(2\frac{1}{2} + 1\frac{2}{3}) \div 1\frac{2}{3}$
3.  $(4\frac{1}{3} - \frac{7}{8}) \times 1\frac{1}{11}$
4.  $(3\frac{1}{2} - 1\frac{1}{3}) \div \frac{2}{3}$
5.  $2\frac{1}{3} \times (\frac{2}{3} + \frac{1}{3})$
6.  $3\frac{1}{4} \div (1\frac{2}{3} + \frac{1}{3})$
7.  $(9 \times \frac{5}{8}) + 15$
8.  $(1\frac{2}{3} \div \frac{1}{12}) - \frac{5}{8}$

9.  $(2\frac{1}{2} \div 1\frac{1}{3}) + 1\frac{1}{2}$
10.  $(1\frac{7}{8} \times 1\frac{1}{8}) \div 2\frac{1}{4}$
11.  $(\frac{2}{3} + \frac{4}{5}) \div \frac{1}{3}$
12.  $(2\frac{1}{10} \div 1\frac{1}{5}) + 1\frac{1}{3}$
13.  $(\frac{2}{3} \text{ of } 19) - \frac{1}{18}$
14.  $(11 - 4\frac{1}{2}) \div \frac{5}{11}$
15.  $(2\frac{5}{8} + 3\frac{1}{2}) \times \frac{3}{8}$
16.  $2\frac{5}{8} + (3\frac{1}{2} \times \frac{3}{8})$

## A

1. 4 st. 13 lb. 7 oz. + 16 st. 15 oz. + 12 st. 12 lb. 12 oz.
2. 116 ml. 3 fur. 8 ch.  $\div 24$ .
3.  $3\frac{5}{8} + 4\frac{3}{8} + 2\frac{3}{8}$ .
4. £13 19s. 5 $\frac{3}{4}$ d.  $\times 35$ .
5. £1000 - £2 6s. 3 $\frac{1}{2}$ d.
6. £121 16s. 1 $\frac{1}{2}$ d.  $\div 73$ .
7. Reduce 2163 ft. to fur. ch. yd.

8. £216 14s. + 17s. 8 $\frac{1}{2}$ d. + 10 $\frac{3}{4}$ d. - £1 1s. 9 $\frac{1}{2}$ d.
9. Reduce 9 yr. 3 wk. 1 hr. to hours.
10. 7 bush. 3 pk. 1 gall.  $\times 29$ .
11.  $\frac{3}{8}\frac{6}{8} \times 1\frac{1}{3} \times \frac{21}{100}$ .
12.  $\frac{£2 \text{ 4s. 5d.}}{1\text{s. 1d.}}$

## B

1. 17 ch. 13 yd. 1 ft. + 18 yd. 2 ft. - 5 ch. 18 yd. 2 ft.
2.  $13 + 907 + 491 + 3000 + 7$ .
3. £136 - 7s. 2 $\frac{1}{2}$ d.
4.  $\frac{1}{8}\frac{5}{8} \times \frac{2}{7}\frac{8}{8} \div 1\frac{1}{20}$ .
5. Reduce 1293 sixpences to £ s. d.
6.  $27170 \div 13$ .

7. £139 16s. 8 $\frac{1}{2}$ d.  $\div 13$ .
8. £201 + 19s. 7d. + 13 half-crowns + 14 florins.
9. £136 13s. 7 $\frac{1}{2}$ d.  $\times 17$ .
10.  $1036 \times 104$ .
11.  $(1\frac{3}{4} + \frac{1}{3}) \times \frac{4}{5}$ .
12. 96 bush. 3 pk. 1 gall.  $\div 37$ .

## C

1. 15 half-crowns + 201 sixpences + 59 threepences + 156 shillings.
2. £75 16s. 3 $\frac{1}{2}$ d.  $\times 26$ .
3. 93 ch. 16 yd. 1 ft.  $\div 9$ .
4.  $20 - 3\frac{5}{8}$ .
5. 12 $\frac{1}{2}$  cwt. - 3 cwt. 1 qr. 13 lb.
6. £305 0s. 7 $\frac{1}{4}$ d.  $\div 29$ .
7. Reduce 2136 half-oz. to st. lb. oz.

8. 13 wk. 5 dy. 13 hr. + 4 wk. 15 hr. + 17 wk. 6 dy. 23 hr.
9. Reduce 13 bush. 3 pk. 1 gall. to galls.
10. £100 6s. 8d.  $\div 10$ .
11.  $4\frac{1}{3} \times \frac{2}{3} \times 4\frac{2}{3}$ .
12.  $\frac{£3 \text{ 4s. 6d.}}{1\text{s. 6d.}}$

## D

1. £5 0s. 6d. + 7 half-guineas + 32 half-crowns + 19s. 2 $\frac{1}{4}$ d.
2.  $360 \times 240$ .
3.  $1\frac{1}{3} \times (3\frac{1}{2} + 2\frac{1}{3})$ .
4.  $1\frac{7}{12} + 2\frac{2}{3} - \frac{3}{8}$ .
5. £23 6s. 4 $\frac{1}{2}$ d.  $\times 11$ .
6. £196 17s. 4 $\frac{1}{2}$ d.  $\div 23$ .

7. Reduce 1263 yd. to fur. ch. yd.
8.  $\frac{13 \times 22 \times 12}{11 \times 3 \times 26}$
9. £200 3s. 2 $\frac{1}{2}$ d.  $\div 19$ .
10. Reduce 3 $\frac{1}{2}$  miles to  $\frac{1}{2}$  yards.
11. £126 9s. 6 $\frac{1}{4}$ d.  $\times 19$ .
12. £2000 - 13s. 8 $\frac{1}{2}$ d.

- A**
1. £200 + 13s. 6½d. + 10½d. + £10 16s. 8½d.
  2. 5½ + 3½ + 4½.
  3. 19½ - 12½.
  4. £123 16s. 4½d. ÷ 11.
  5. Reduce 1096 gall. to bush. pk. gall.
  6. 188993 ÷ 203.
  7. 18 yd. 1 ft. ÷ 1 ft. 3 in.
  8. 13 bush. 3 pk. 1 gall. + 12 bush. 2 pk. + 7 bush. 1 pk. 1 gall.
  9. 136 st. 13 lb. 6 oz. ÷ 12.
  10. £313 1s. 6d. ÷ 25.
  11. 17 ton - 1 ton 13 cwt. 1 qr.
  12. 17½ ÷ 1½.

- B**
1. 200 pence + 73 half-crowns + 12½ guineas + £12 6s. 8½d.
  2. £93 16s. 10½d. × 23.
  3. 3½ - 4½ + 2½.
  4. Reduce 1000 half-crowns to £ s. d.
  5. 3½ + 2½ + 1½.
  6. £100 ÷ 26.
  7. 126 yr. 13 wk. 6 dy. ÷ 42.
  8. 13 ton 12 cwt. + 6 ton 1 qr. + 12 ton 19 cwt. 3 qr.
  9. Reduce £2 6s. 10½d. to three-halfpences.
  10. 12637 ÷ 25.
  11. 13 dy. 12 hr. 13 min. × 18.
  12. 1½ × 3½ × ½.

- C**
1. £136 10s. 2½d. + 17s. 11½d. + £10 - £6 7s. 3d.
  2. 6 ch. 17 yd. 1 ft. × 36.
  3. 3½ + 5½ + 1½.
  4. Reduce 7263 min. to days, etc.
  5. 1½ × 3½ × ½.
  6. £173 6s. 4½d. ÷ 18.
  7. 9 st. 9 lb. ÷ 1 lb. 2 oz.
  8. 12 hr. 16 min. 37 sec. + 15 hr. 13 min. + 13 hr. 39 min. 56 sec.
  9. £108 15s. 3½d. × 21.
  10. (16 - 1½) × ¾.
  11. 72¾ - 16¾.
  12. 129 hr. 17 min. 13 sec. ÷ 17.

- D**
1. 14 × 9 × 20  
12 × 15 × 21
  2. 3009 × 98.
  3. £43 16s. 8½d. × 26.
  4. £900 ÷ 37.
  5. Reduce 2163 fourpences to £ s. d.
  6. 193 ton 12 cwt. 3 qr. ÷ 12.
  7. 17¾ - 6½.
  8. 3½ guineas + 123 shillings + 63 fourpences + £2 6s. 8½d.
  9. 93 + 3 thousand + ½ million.
  10. (1½ + 3½) - 1½.
  11. 23184 ÷ 23.
  12. £1000 ÷ 24.

- | <b>A</b>                   | <b>B</b>   |
|----------------------------|--|
| 1. 2½ + 3½ =               | 1. Find the cost of 2½ dozen at 1½d. each.       |
| 2. 1½ lb. at 3d. per lb. = | 2. Write in figures half a million.              |
| 3. 3s. 4d. × 62 =          | 3. 2 lb. 7 oz. at 2s. per lb.                    |
| 4. 127 × 300 =             | 4. Find the sum of 100 pence and 100 half-pence. |
| 5. 5s. 3d. ÷ 4 =           | 5. Find the cost of 21 marbles at 2 for 1d.      |
| 6. ½ ÷ ½ =                 | 6. 2 score at ¾d. each =                         |
| 7. 2½ - ½ =                | 7. How many min. from 11.15 p.m. - 12.35 a.m.?   |
| 8. 13 × 13 =               | 8. Express ¾ as a decimal.                       |
| 9. 1¼ million =            |  |
| 10. 775 ÷ 25 =             |  |

## PROBLEMS

- A**
1. Find the sum of two hundred thousand one hundred and six, half a million, and one thousand one hundred and twenty-seven.
  2. How many 2 oz. packets of tea can be made from 2 chests, one holding ½ cwt. and the other ¾ cwt. of tea?
  3. Four sticks of wood have a total length of 20 ft. The first is 8 ft., the second 3½ ft. and the third 5½ ft. How long is the fourth stick?
  4. An oil merchant has 50 gall. of oil. He sells 18 gallons, 26 quarts and 104 pints. How many pints has he left?
  5. 3 lb. 5 oz. of meat at 2s. per lb., 3 doz. pencils at 2¾d. each, 1½ lb. lard at 11d. per lb., 1½ gall. oil at 3d. per pt.
  6. From the sum of 3½ and 2½ take the difference between 2½ and 1½.

- B**
7. A man had 600 gall. of petrol. He sold ½, ¼ and one sixth of his petrol. How many gall. had he left?
  8. What will 14 gross of books cost at £1 2s. 6d. per dozen?
  9. If a train goes 168¾ miles in 3½ hours, find its speed in miles per hour.
  10. A grocer sold ¾ cwt. of cornflakes in packets. Each packet holds 8 oz. of cornflakes and costs 7½d. Find his total takings.
  11. Take the least from the greatest of the following:—  
2¾; 2½; 2⅝; 2⅞.
  12. A boy walks a mile in 25 minutes. How far will he walk from 12.5 p.m. to 2.10 p.m.?

A		B
1. $37 \times 600$	=	1. How much greater is $\frac{3}{8}$ of a pound than $\frac{3}{8}$ of a shilling?
2. $\frac{5}{8}$ lb. =	oz.	2. $13s. 6\frac{1}{2}d. + 7\frac{1}{4}d. + 19s. 5\frac{3}{4}d.$
3. $4s. \times 27$	=	3. Express $\frac{3}{5}$ as a decimal.
4. $1\frac{1}{2}d. \times 76$	=	4. From the sum of 163 and 17 take 19.
5. $5s. 0d. \div 8$	=	5. Write in figures one hundred thousand two hundred and six.
6. $\frac{3}{4}$ of 13 shillings	=	6. If a score of articles cost £1 10s. find the cost of one.
7. $\frac{3}{8}$ of 480	=	7. To how many children can I give 2s. 6d. out of £3 17s. 6d.?
8. $\frac{1}{10} + \frac{1}{5}$	=	
9. $2\frac{1}{2}d. \times 48$	=	
10. $6\frac{1}{4}d. \times 24$	=	

## PROBLEMS

- A
1. A woman uses on an average 1 pt. of milk per day. Find her milk bill for January if milk is 3d. per pint.
  2. Jack earns 18s. 9d. per week and John earns £1 0s. 6d. per week. Find their total wages for 1 year.
  3. From the sum of 12 st. 13 lb. 6 oz. and 4 st. 7 oz. take their difference.
  4. A woman used  $1\frac{1}{4}$  ton of coal one year and  $\frac{3}{8}$  of that amount the following year. How much coal did she use in the two years?
  5. Bill: 2 doz. articles at 1s.  $4\frac{1}{2}d.$  each.  
18 articles at 3s. 6d. per doz.  
1 gross of articles at  $2\frac{1}{4}d.$  each.  
 $2\frac{1}{2}$  dozen articles at  $2\frac{1}{2}d.$  each.

- B
1. A woman spent  $\frac{1}{4}$  of her money in one shop and  $\frac{3}{8}$  of the remainder in another shop. What fraction of her money did she spend in the second shop?
  2. After giving 25 people £2 6s. 7d. each a man found he had  $3\frac{1}{2}$  guineas left. What had he at first?
  3. Find  $\frac{3}{4}$  of the difference between  $3\frac{1}{8}$  and  $2\frac{1}{2}$ .
  4. A man's stride is 2 ft. 7 in. How many strides will he take in walking 310 yards?
  5. A grocer bought  $1\frac{1}{2}$  cwt. of tea. He made half of it up into  $\frac{1}{2}$ -lb. packets and the rest into  $\frac{1}{4}$ -lb. packets. How many packets did he make altogether?

A		B
1. $16 \div \frac{1}{4}$	=	1. Find the cost of $\frac{3}{10}$ of a ton at 2s. per cwt.
2. $3\frac{1}{4}d. \times 960$	=	2. By how much is $\frac{3}{4}$ of two shillings less than 2s. 9d.?
3. $1s. 8d. \times 38$	=	3. 2 cwt. at £2 10s. per ton.
4. $11\frac{1}{2}$ guineas	=	4. $1\frac{1}{2}$ lb. at 3d. per oz.
5. $2s. 6\frac{1}{2}d. \times 7$	=	5. Find the cost of 22 nails at 4 for 2d.
6. $\frac{1}{12}$	=	6. How many articles at 3s. 4d. each can I buy with £5 10s.?
7. 5 oz. at 1s. 8d. per lb.	=	7. Express $\frac{3}{20}$ as a decimal.
8. 65 twopences	=	
9. $\frac{1}{2} \times 1\frac{1}{3}$	=	
10. $\frac{5}{8}s.$	=	

## PROBLEMS

- A
1. A scoutmaster had to send out 100 circulars, with a  $1\frac{1}{2}d.$  stamp on each. The circulars cost 9d. for 25. How much did it all cost?
  2. A man had £100. He gave  $\frac{1}{2}$  to his son and  $\frac{1}{3}$  to his daughter. How much was left?
  3. A monitor uses  $\frac{1}{4}$  gallon of ink in filling 24 inkwells. How many gallons will he use for 5 classrooms with 48 inkwells in each room?
  4. The road in which I live is  $\frac{1}{4}$  mile long. The next road is  $\frac{4}{5}$  of that length. How long is the next road? (Give your answer in yards.)
  5. Find the product of two hundred and six thousand, and two hundred and ninety-three.
  6. Find the cost of  $1\frac{3}{4}$  cwt. at 5 lb. for 6d.

- B
1. A train starts at 8.40 a.m. and runs at 40 miles per hour. How many miles will it have travelled by 12.10 p.m.?
  2. A cup, when full, holds  $\frac{3}{4}$  pint. How much is in it when it is  $\frac{3}{8}$  full?
  3.  $\frac{1}{2} + \frac{1}{3} + \frac{1}{4} + \frac{1}{5} - \frac{1}{6} - \frac{1}{10} - \frac{1}{12}$
  4. A lady left her home at 3 p.m. in order to visit a friend. She took 45 minutes to get to her friend's house, and spent 1 hr. 10 mins. with her friend. The return journey took 50 minutes. At what time did she get home?
  5.  $8\frac{1}{2}$  tons of goods are packed into crates, each of which holds 3 cwt. How many crates will be required?
  6. A book is printed with 32 lines on each page and 9 words on each line. How many pages will be required for 4170 words?

A

*Find the cost of*

1. 2 doz. arts. at  $1\frac{1}{2}$ d. each.  
 3 doz. arts. at  $1\frac{1}{4}$ d. each.  
 $1\frac{1}{2}$  doz. arts. at  $2\frac{1}{2}$ d. each.  
 $1\frac{3}{4}$  doz. arts. at 2s. per doz.

2. 45 arts. at 5 for 6d.  
 $2\frac{1}{2}$  doz. arts. at 4d. per doz.  
 4 doz. arts. at  $\frac{1}{2}$ d. each.  
 18 arts. at  $1\frac{3}{4}$ d. each.

3.  $1\frac{1}{2}$  lb. at 1s. 2d. per lb.  
 $\frac{3}{4}$  lb. at 1s. 4d. per lb.  
 $1\frac{1}{4}$  lb. at 10d. per lb.  
 $1\frac{3}{4}$  lb. at 3s. per lb.

4. 1 lb. 7 oz. at 1s. 4d. per lb.  
 7 eggs at 1s. 6d. per doz.  
 28 lemons at 4 for 3d.  
 36 eggs at 2s. per doz.

5. 7 oz. at 2s. per lb.  
 3 pt. at 2s. per gall.  
 9 in. at 3s. per yard.  
 $\frac{3}{4}$  yd. at  $\frac{1}{2}$ d. per inch.

6. 7 cwt. at £2 per ton.  
 $\frac{3}{4}$  lb. at 1s. 8d. per lb.  
 6 pt. at 2s. 8d. per gall.  
 2 lb. 5 oz. at 2s. per lb.

7.  $1\frac{1}{2}$  yd. at 1d. per inch.  
 2 st. at 2 lb. for  $1\frac{1}{2}$ d.  
 $\frac{1}{2}$  cwt. at 2d. per lb.  
 3 lb. 7 oz. at 2s. 8d. per lb.

8.  $1\frac{1}{2}$  gall. at 3d. per pt.  
 1 cwt. at £1 10s. per ton  
 24 oranges at 4 for 5d.  
 $1\frac{1}{4}$  yd. at 1s. 10d. per yd.

B

*Find the cost of*

1. 4 oz. at 1s. 4d. per lb.  
 $1\frac{1}{4}$  lb. at 5d. per lb.  
 $\frac{1}{2}$  lb. at  $1\frac{1}{2}$ d. per oz.  
 1 lb. 8 oz. at 4s. per lb.

2. 8 in. at 6d. per ft.  
 1 yd. 1 ft. at 9d. per yd.  
 $1\frac{1}{4}$  ft. at 8d. per ft.  
 $2\frac{1}{2}$  yd. at 1s. per ft.

3.  $2\frac{1}{2}$  pt. at 3d. per pt.  
 3 pt. at 4d. per qt.  
 1 gall. 1 pt. at  $\frac{1}{2}$ d. per pt.  
 6 pt. at 2s. per gall.

4. 1 lb. 4 oz. at 3d. per lb.  
 12 oz. at 2s. 8d. per lb.  
 2 lb. 4 oz. at 1s. 4d. per lb.  
 3 lb. at 4 oz. for 7d.

5. 1 yd. 1 ft. 6 in. at 9d. per yd.  
 1 yd. 9 in. at 3s. per yd.  
 2 ft. 6 in. at 3d. per ft.  
 2 yd. 1 ft. 6 in. at 1s. per yd.

6.  $\frac{1}{2}$  pt. at 5s. per qt.  
 $\frac{1}{2}$  gall. at  $2\frac{1}{4}$ d. per qt.  
 1 gall. 1 pt. at 4s. per gall.  
 2 gall. 1 qt. 1 pt. at  $1\frac{1}{2}$ d. per pt.

7. 7 oz. at 2s. per lb.  
 6 oz. at 4d. per qr. lb.  
 $1\frac{3}{4}$  lb. at 4d. per oz.  
 1 lb. 5 ozs. at 2s. 4d. per lb.

8. 2 doz. arts. at  $\frac{3}{4}$ d. each.  
 18 arts. at 1s. 6d. per doz.  
 $\frac{1}{2}$  gross arts. at  $2\frac{1}{2}$ d. per doz.  
 23 arts. at 5d. each.

- I.  $12\cdot6+3\cdot721-004-2\cdot7$ .  
 2.  $1\cdot076-23-1\cdot7+26\cdot4$ .  
 3.  $26+3\cdot72-16-7\cdot389$ .  
 4.  $360-7\cdot008-23-1\cdot76$ .  
 5.  $23\cdot6-1\cdot004+7\cdot006-8$ .  
 6.  $024-1\cdot7-008+2\cdot63$ .  
 7.  $327-1\cdot6-736-24\cdot9$ .  
 8.  $008-2\cdot6+26\cdot4-7$ .  
 9.  $(2\cdot36+1\cdot04)\times3\cdot7$ .  
 10.  $(72-1\cdot83)\times13$ .  
 11.  $(02\div25)+16\cdot23$ .  
 12.  $0123+\frac{1}{2}+2\cdot62+\frac{1}{4}$ .

13.  $(1\cdot62-04)+(7\cdot126+9)$ .  
 14.  $(1\cdot2\div2\cdot4)+100$ .  
 15.  $24\cdot32+\frac{1}{8}+6\cdot7-\frac{1}{4}$ .  
 16.  $(2\cdot34\times1\cdot02)-1\cdot63$ .  
 17.  $01264\times\frac{3}{4}$ .  
 18.  $(1\cdot24\times8)+008$ .  
 19.  $\frac{1}{8}-1\cdot623+\frac{1}{2}+7\cdot32$ .  
 20.  $012632\div12$ .  
 21.  $(2\cdot6-3)\div09$ .  
 22.  $(0123+13)\div2\cdot1$ .  
 23.  $0126+13-1\cdot7+96$ .  
 24.  $(73-12\cdot4)\div12$ .

## TEST SUMS

A

- I. £126 15s. + £90 17s. 6d. +  $4\frac{1}{2}$  guineas +  $9\frac{3}{4}$ d.  
 2.  $23\cdot62+7\cdot8-3\cdot24-6$ .  
 3. £239 16s.  $7\frac{1}{2}$ d.  $\div19$ .  
 4. Reduce 1372 qr. to ton cwt. qr.  
 5.  $2\frac{1}{2}$  yd.  $\div7\frac{1}{2}$  in.  
 6.  $26\cdot78\div26$ .  
 7.  $136-17\frac{5}{8}$ .

8. 3 st. 13 lb. 6 oz. + 12 lb. 8 oz. + 4 st. 6 lb. 9 oz.  
 9.  $1\cdot632\times2\cdot04$ .  
 10.  $3\frac{1}{8}\times1\frac{2}{7}\times1\frac{1}{2}$ .  
 11. £126 15s.  $11\frac{1}{2}$ d.  $\times72$ .  
 12. Reduce £16 3s.  $4\frac{1}{2}$ d. to three-halfpences.  
 13.  $(1\cdot61-31)\times1\cdot7$ .  
 14. Reduce 1936 pt. to gall. qt. pt.

## TEST SUMS

B

- I. £126 15s.  $3\frac{1}{4}$ d.  $\times49$ .  
 2. £1000—£26 14s.  $3\frac{1}{4}$ d.  
 3.  $5\frac{1}{8}\times2\frac{9}{10}\div\frac{4}{21}$ .  
 4.  $3\cdot6\div24$ .  
 5. 13 ch. 17 yd. 2 ft.  $\times23$ .  
 6.  $2\frac{2}{3}+4\frac{2}{3}+1\frac{9}{10}+5$ .  
 7. 126 ton 16 cwt. 2 qr.  $\div18$ .

8. Reduce 7 wk. 5 dy. 16 hr. to hours  
 9. Reduce  $2\frac{1}{2}$  cwt. to oz.  
 10. 2 sq. yd. 3 sq. ft. 16 sq. in.  $\times24$ .  
 11.  $1326\times197$ .  
 12. £647 15s.  $8\frac{1}{2}$ d.  $\div63$ .  
 13.  $19\frac{2}{7}-16\frac{1}{8}$ .  
 14.  $(23\cdot92\div2\cdot3)-126$ .

A

1. £1000 + £2 16s. 7½d. + £¾ + £10 16s. 2d.
2. 2163 + 97 + 126 - 1000.
3. £216 17s. 2½d. ÷ 132.
4. £132 13s. 4½d. × 9.
5. (1.4922 - 1.1) ÷ .37.
6. Reduce 1264 farthings to £ s. d.
7. 1½ + 3¾ + 2½.
8. 12 sq. yd. 3 sq. ft. + 2 sq. yd. 72 sq. in. + 3 sq. ft. 84 sq. in.
9. £126 13s. 6½d. × 12.
10. (12¾ - 8½) × 9.
11. 10036 × 124.
12. 2 yr. 13 dy. 3 hr. × 23.

B

1. £216 + £½ + £6 17s. 2½d. - £100.
2. £3 12s. ÷ 1s. 4d.
3. 124 ton 10 cwt. 1 qr. ÷ 24.
4. .1656 ÷ .72.
5. Reduce 2½ ton to oz.
6. 23½ × 2¾ ÷ 2⅛.
7. £123 13s. 2½d. × 37.
8. 13 qr. 13 lb. + 2 qr. 14 oz. - 7 qr. 12 oz.
9. 76 - 2.716 - 1.8 + .026.
10. 2.132 ÷ 40.
11. 4½ ÷ 12.
12. £1000 ÷ 47.

C

1. 4 bush. 3 pk. 1 gall. + 2 pk. 1 gall. - 3 bush 1 gall.
2. Reduce 13½ cwt. to stones.
3. 93000 - 124.
4. (24 + 1.82) × .24.
5. £436 17s. 3½d. ÷ 34.
6. £1000 - 2s. 11½d.
7. (5½ × ¾) - 1½.
8. 2½ ton + 3 cwt. 3 qr. + 4½ cwt. + 6 ton 13 cwt. 1 qr.
9. £213 13s. 6½d. × 43.
10. Find ⅓ of 12634.
11. 8¾ gall. ÷ 2 qt. 1 pt.
12. 2.6 ÷ .23.

D

1. 33 × 28 × 60  
21 × 44 × 50.
2. £913 2s. 10½d. × 37.
3. 2.6 ÷ .8.
4. 7⅝ - 9⅝ + 6⅞.
5. 13 ton - 7 cwt. 1 qr.
6. Reduce 8126 three-halfpences to £ s. d.
7. £213 4s. 2½d. × 7.
8. 5½ ft. + 2 yd. 1 ft. 7 in. + 2¾ ft. + 2½ yd.
9. £196 16s. 2½d. ÷ 12.
10. 2134 × 107.
11. (7.004 - .23) × 7.
12. Reduce £1 6s. 8d. to four-pences.

A

1. £192 19s. + £524 18s. 10½d. - £147 3s. 11¾d.
2. Reduce 461 inches to yd. ft. in.
3. 3⅝ + ⅝ - ⅞.
4. 2¼ × 1¾ × ⅒.
5. £31 10s. 2½d. × 31.
6. Divide 3 qr. 10 lb. 8 oz. by 11.
7. 5 ton 11 cwt. 1 qr. × 17.
8. 2 ml. 6 fur. 5 ch. - 7 fur. 6 ch. + 10 ml. 1 fur. 3 ch.
9. Reduce 3 sq. yd. 1 sq. ft. to sq. ins.
10. 9 + .51 + 3.72 + .019.
11. 5.05 × 1.8.
12. Find ¼ of £109.

B

1. £117 12s. 5½d. × 25.
2. Reduce 857 oz. to st. lb. oz.
3. 2 sq. ft. 96 sq. in. × 8.
4. Eight thousand and one times 51.
5. 11½ - ⅝ + ¾.
6. (11 - .01) × 20.
7. 21.76 ÷ 1.7.
8. 112 yd. 2 ft. 11 in. ÷ 14.
9. Reduce 15 dy. 17 hr. 12 min. to minutes.
10. Reduce 2000 farthings to £ s. d.
11. Divide 18 days by 25.
12. 3½ ÷ ⅔ ÷ 6.

C

1. 1 sq. yd. 8 sq. ft. 30 sq. in. - 7 sq. ft. 54 sq. in.
2. (2000 - 283) ÷ 17.
3. 1 gall. 2 qt. 1 pt. × 9.
4. 12 st. 5 lb. 8 oz. - 11 lb. 10 oz.
5. 12 - ⅝ - ⅞.
6. 1.3 + .916 + .72 + 9 - 2.31.
7. .00324 ÷ .018.
8. 2 tn. 17 cwt. + 1 tn. 11 cwt. 1 qr. + 15 cwt. 3 qr. - 1 tn. 19 cwt.
9. Reduce £15 10s. 6d. to six-pences.
10. Reduce 18571 sec. to hr. min. sec.
11. 15 yd. 1 ft. 3 in. - 3 yd. 2 ft. 9 in.
12. (⅓ × 8) ÷ 2½.

D

1. £240 15s. ÷ 119.
2. Reduce 19s. 2½d. to halfpence.
3. 37 ml. 4 fur. 3 ch. ÷ 33.
4. Reduce 9½ tons to quarters.
5. Change 2.048 to a vulgar fraction.
6. 2.3 × .45 × ¾.
7. (5⅝ ÷ 1½) ÷ .17.
8. 117 gall. 3 qt. 1 pt. ÷ 25.
9. Reduce 12960 sq. in. to sq. yards.
10. 3 yd. 2 ft. 3 in. × 13.
11. Reduce 16½ gall. to half-pints.
12. (13.6 - .91) ÷ .04.

A		B	
1. $\frac{3}{4}$ sq. ft.	= sq. in.	1. How many roods in $4\frac{1}{4}$ acres?	
2. $\frac{2}{3}$ sq. ft.	= sq. in.	2. Find the cost of 1 sq. ft. at $\frac{1}{4}$ d. per sq. inch.	
3. $1\frac{1}{2}$ sq. yd.	= sq. ft.	3. Find the perimeter of a square with a side of $5\frac{1}{4}$ inches.	
4. 5 acres	= roods	4. Find the area of a rectangle $7\frac{1}{2}$ in. long and 6 in. wide.	
5. 72 sq. ft.	= sq. yd.	5. The perimeter of a sq. measures 20 in. Find its area.	
6. $\frac{1}{4}$ acre	= sq. yd.		
7. 36 sq. in.	= sq. ft.		
8. 4 sq. yds. $\div 9$	= sq. ft.		
9. 2 sq. yd. 3 sq. ft. $\times 4$			
10. $4\frac{1}{2}$ sq. ft.	= sq. yd.		

## PERIMETER AND AREA

- Find the cost of 1 square yard at  $1\frac{1}{2}$ d. per square inch.
- A piece of wood 6 in. square was cut from a 6 ft. length of timber 6 in. wide. What area remained?
- Find the perimeter of a rectangular field 50 yd. long and 33 yd. 2 ft. wide.
- Find the cost of a piece of metal 2 yd. long and 4 ft. wide at 6d. per sq. ft.
- Find the area of a square, the perimeter of which is 10 inches.
- The perimeter of a square is 24 yds. Find its area.
- Out of a sheet of paper measuring 4 in. by 6 in. a boy cut two  $1\frac{1}{2}$  inch squares. How many square inches are left?
- What will it cost, at 2s. per foot, to fence all four sides of a rectangular field measuring 33 yd. by 28 yd.?
- Find, in square yards, the area of a road 39 feet wide and  $\frac{3}{4}$  mile long.
- The length of a piece of paper is twice the width. If the width is  $7\frac{1}{2}$  in. find its area.
- What would it cost to dig up a garden 30 ft. by 15 ft. at 4d. per sq. yd.?
- A floor measures 12 ft. by 10 ft. On it is a carpet 9 ft. sq. What area remains uncovered?
- What will it cost to whitewash a ceiling 12 ft. by 10 ft. at  $1\frac{1}{2}$ d. per sq. ft.?
- How many flags each 1 sq. ft. in area will be required to flag a yard 28 ft. long and 24 ft. wide?

- A
- Divide the product of  $12\cdot8$  and  $6\cdot5$  by  $5\cdot2$ .
  - How many hours are there in the last four months of the year?
  - Add  $\frac{1}{12}$  of £2 11s. 9d. to 25 half-crowns.
  - Bill.  
3 lb. 11 oz. at 2s. per lb.  
 $\frac{3}{4}$  gross at 5d. per doz.  
65 articles at 13 for 1s.  
1 yd. 1 ft. 6 in. at 4s. 6d. per yd.
  - Divide 5 tons 15 cwt. by 112.

- B
- Take  $3\frac{7}{8}$  from the product of  $3\frac{3}{4}$  and  $1\frac{1}{2}$ .
  - If I run at the rate of 100 yards in 20 seconds, how long shall I take to run round a rectangular field measuring  $74\frac{1}{2}$  yd. by  $50\frac{1}{2}$  yd.?
  - A rent-collector is paid  $\frac{1}{10}$  of the money he collects. He collects 12s. 6d. from each of 8 houses. How much is he paid?
  - $114\cdot1 - \cdot906 + 17\cdot25 - 37$ .
  - Divide £96 2s.  $10\frac{1}{4}$ d. by 109.

- C
- Multiply £37 16s.  $8\frac{3}{4}$ d. by 41.
  - Alice bought  $\frac{1}{2}$  lb. of sweets at  $4\frac{1}{2}$ d. per  $\frac{1}{4}$  lb. and also some toffee at 3d. per  $\frac{1}{4}$  lb. Her total bill came to 1s. 6d. What weight of toffee did she buy?
  - $106\cdot029 \div 81$ .
  - The width of a strip of paper is  $\frac{1}{10}$  of its length. If its length is 2 ft. 1 in., find its area in square inches.
  - $(4\frac{2}{3} \times 1\frac{1}{2}) - 6\frac{5}{6}$ .

- D
- £410 10s. 6d.  $\div 139$ .
  - A roll of cloth 450 yd. long is worth £67 10s. It is cut into pieces each half a yard long. How many pieces can I buy with 3s.?
  - 1 kilogram = 2·2 lb. Change 22 stone to kilograms.
  - $\frac{3}{8}$  of a park is laid out in gardens and  $\frac{2}{8}$  is set aside for games. What area is left if the total area of the park is 160 acres?
  - Reduce 71 gall. 3 qt. to half-pints.

## A

1. How many yards of cretonne at 2s. 9d. per yard can be bought for £2 17s. 9d.?
2. .25 of a yard of ribbon is used to make 2 rosettes. How many yards will be needed to make half a gross?
3. Find the sum of one hundred thousand two hundred and eight, ten thousand three hundred and six, and two hundred thousand.
4. Find the difference between .7 and .3264 and multiply your answer by 2.8.

## B

1. 3 pieces of string together measure 26.75 inches. One piece measures  $7\frac{3}{10}$  in. and the second  $8\frac{1}{5}$  in. Find the length of the third piece.
2. How many times is  $5\frac{1}{4}$  of  $\frac{4}{7}$  contained in  $4\frac{1}{2}$ ?
3. A reel of silk consists of 280 yards. How many reels could be made from  $3\frac{1}{2}$  miles of silk?
4. Find the cost of 1000 articles at 5 for 3d.

## C

1.  $\frac{2}{9}$  of my money is in half-crowns and  $\frac{3}{8}$  in shillings. The rest is in copper. What part is copper?
2. Mr. Brown leaves home at 8.15 a.m. and returns at 5.50 p.m. Mr. Jones leaves at 8.45 a.m. and returns at 6.30 p.m. Who is away the longer and by how many minutes?
3. 4 doz. cards of hair clips at  $2\frac{1}{2}$ d. each, 9 yd. of tape at 15s. per doz. yards,  $1\frac{1}{2}$  yd. of cotton at 1s. 11d. per yd., 4 doz. buttons at 2 for 3d.
4. Take the least from the greatest of the following:  $2\frac{2}{3}$ ,  $2\frac{7}{9}$ ,  $2\frac{5}{6}$ ,  $2\frac{3}{4}$ .

## D

1. If .125 and  $\frac{2}{7}$  of a bottle of oil have been used, what fraction remains?
2. A man bought  $3\frac{1}{2}$  rolls of material. Each roll measured 46 yd. He sold 50.75 yd. and 36.125 yd. What length of material remained?
3. A square piece of paper measures 4 sq. ins. How many such pieces can be cut from a sheet measuring 2 ft. by 1 ft. 6 in.?
4. Find the total of 73 half-crowns, 69 threepences, 47 three-halfpences and 123 florins.

## A

1. Find the sum of 5 ten-shilling notes, 34 half-crowns, 63 sixpences and 119 shillings.
2. A man paid 9s. 8d. for some wheat and oats. He bought 26 lb. of oats at  $1\frac{1}{4}$ d. per lb. How many lb. of wheat at 2d. per lb. did he buy?
3. A girl spent .375 of her money in one shop and .125 in another shop. How much money had she left out of 10 shillings?
4. A man left London at a quarter past nine and arrived at Brighton at a quarter to twelve. How long did the journey take?

## B

1. Jack had a piece of paper measuring  $8\frac{1}{2}$  in. by 6 in. John had a piece measuring 1 ft. by 9 in. By how many sq. in. was one larger than the other?
2. Divide half a million by one hundred and thirty-seven.
3. 120 people paid to go to a concert.  $\frac{1}{3}$  of them paid 1s. 0d.,  $\frac{1}{4}$  paid 6d. and the rest 3d. How much money was taken altogether?
4. 21 men can each be given £2 6s. 3d. If the same sum were equally divided among 14 men, what would each receive?

## C

1. From the sum of  $3\frac{1}{8}$  and  $2\frac{1}{8}$  take their difference.
2. How much change shall I have out of a pound note after buying: 2 lb. 8 oz. lard at 10d. per lb.,  $\frac{3}{4}$  lb. margarine at 11d. per lb.,  $1\frac{1}{2}$  lb. of rice at 1s. 1d. per lb. and 7 rolls at 1s. 9d. per dozen?
3.  $£16\frac{1}{3} + £12\frac{2}{3} + £19\frac{2}{3} + £16\frac{1}{6}$ .
4. A coalman set out with  $3\frac{1}{2}$  tons of coal. He sold sixteen 2 cwt. sacks, and twenty cwt. sacks. How much coal had he left?

## D

1. Find the area, in sq. yd. of 6 planks of wood 12 ft. 6 in. long and 8 in. wide.
2. A boy earns 1s. 8d. per hour. How long will he take to earn £5 18s. 4d.?
3. Take  $\frac{3}{8}$  of 1064 from  $\frac{3}{8}$  of 2065.
4. How many 4 oz. packets of tea can be made from 2 chests, one holding  $\frac{3}{4}$  cwt. and the other 5 stones?

## A

1. A boy runs round a garden 100 yd. long and 30 yd. wide. How much short of  $\frac{1}{2}$  mile has he run? (*Answer in yds.*)
2. From the product of thirty-seven and two hundred thousand and eight, take three thousand.
3. An engine consumes 2 cwt. of coal in 8 hours. How long would it take to consume  $10\frac{1}{2}$  tons of coal?
4. Find the total cost of  $9\frac{1}{2}$  oz. bacon at 1s. 4d. per lb.,  $\frac{1}{2}$  lb. of biscuits at 1s. 4d. per lb.,  $2\frac{1}{2}$  dozen eggs at  $1\frac{1}{2}$ d. each, 16 buns at 4 for 3d.

## B

1. A man's step measures 2 ft. 6 in. How many steps will he take in walking  $\frac{3}{4}$  of a mile?
2. A cup holds  $\frac{3}{8}$  pt. How many pints will be left out of 10 gall. of milk after 160 cups have been filled?
3. A carpet 3 yd. square is placed in a room which measures 15 ft. by 12 ft. What area is left uncovered?
4. Jack saved a penny every day and Mary saved  $2\frac{1}{2}$ d. each week. What were their total savings at the end of a year?

## C

1. A man bought 200 eggs at 4 for 1s. and sold them at  $3\frac{1}{4}$ d. each. What did he gain?
2. Find the area, in sq. ft., of a room  $4\frac{2}{3}$  yd. long and  $3\frac{1}{3}$  yd. wide.
3. Between 9.15 a.m. and 2.15 p.m. a man travelled 40 miles. How many yards per hour did he travel?
4. Add in decimals  $13\frac{1}{2}$ ,  $3\frac{1}{5}$ ,  $6\frac{17}{100}$ ,  $\frac{129}{10}$ .

## D

1. Multiply the greatest of the following fractions by the sum of the other two:  $2\frac{1}{5}$ ,  $2\frac{1}{3}$  and  $2\frac{1}{4}$ .
2. John earns 18s. 9d. per week and William 15s. 6d. per week. How much will they both earn in a year (52 weeks)?
3. Add together the largest and the smallest of the following: 2.3, 2.1607, 2.24, 2.963.
4. One room measures 13 ft. by 3 yd. and another is 10 ft. square. How much picture rail will be required for the larger room?

## A

1. Last year I bought 1 ton of paper for £2 5s. This year it is 4d. per cwt. cheaper. How much shall I have to pay for 1 ton this year?
2. A woman bought 48 yards of cotton at  $6\frac{3}{4}$ d. per yard. She spent an equal amount of money in buying silk at 3s. per yard. How many yards of silk did she buy?
3. One piece of wood measures  $27\frac{1}{2}$  in. and a second piece  $18\frac{7}{8}$  in. They are joined together so that the overlapping part measures  $2\frac{3}{4}$  in. Find the length of the piece of wood.
4. From the sum of the greatest and the least of the following fractions take their difference:  $\frac{5}{8}$ ,  $\frac{5}{6}$ ,  $\frac{2}{3}$ ,  $\frac{3}{4}$ .

## B

1. Tom can walk 5 miles in 2 hours. Jack can walk a mile in 4 minutes less time than it takes Tom. How long does Jack take to walk 1 mile?
2. Last year I spent £6 4s. 0d. on a train journey at the rate of  $1\frac{1}{2}$ d. per mile. The charge this year is a 1d. per mile. How much will the same journey cost me this year?
3. Find the cost of covering a room 13 ft. long and 3 yard wide with linoleum at 2s. 6d. per sq. yd.
4. After spending .875 of my money I had 3s. 4d. left. How much had I at first?

## C

1. Mr. Jones bought a suit, the price of which was £25. He paid £5 and promised to pay 4 shillings a week off the balance. How much was still owing after 1 year (52 weeks)?
2. How many times can a watering can holding 1.75 gallons be filled from a tank holding  $29\frac{3}{4}$  gallons?
3. In selling buns at 4 for 3d. a confectioner takes £2 10s. 9d. How many buns does he sell?
4. Bill.  $3\frac{1}{2}$  yd. of tape at 5d. per yd.      4 yd. 27 in. at 1s. 6d. per yd.  
5 pt. at 3s. 0d. per gall.       $3\frac{1}{2}$  doz. stamps at  $1\frac{1}{2}$ d. each.

## D

1. A football match was due to commence at 3 p.m. It was started 5 min. late. The actual play lasted 90 min. and there was an 8 minutes interval. When did the match finish?
2. Multiply eleven hundredths by one hundred and thirty-three thousandths (using decimals).
3. The width of a rectangle is one half its length. Find its area if its length is 1 ft. 1 in.
4. £.125 + 1.5 of 6 shillings + £2.75 + 3.25 pence.

## A

1. 112 jars of jam weigh 245 lb. Each jar contains 2 lb. of jam. Find in ounces the weight of each jar when empty.
2. 35 articles at 7 for  $5\frac{1}{2}$ d., 1 gross articles at  $1\frac{3}{4}$ d. each, 2 lb. 3 oz. at 4d. per lb., 2 gall. 1 qt. 1 pt. at 2d. per qt.
3. From the sum of one thousand and nine, two hundred and three, and thirty thousand, take three thousand and nineteen.
4. Take thirteen thousand and thirty-nine from half a million.

## B

1. I spent 2s. 4d. in buying fourpenny reels of cotton on each of which were 250 yd. How many yards did I buy?
2. An oil merchant mixes 3 gallons of oil worth 8d. per pt. with 5 gall. of oil worth 4d. per pt. Find the value of 1 pt. of the mixture.
3. The perimeter of a four-sided figure is 1 yard. Find the length of the fourth side if the other sides measure  $8\frac{1}{2}$  in.,  $7\frac{3}{8}$  in. and  $10\frac{7}{8}$  in.
4. Find the total of 76 florins, 193 shillings, 73 sixpences and 47 three-halfpences.

## C

1. A man bought 100 boxes of nibs each containing 160 nibs. He bought the nibs at 1d. each and sold them at 8 for a shilling. What profit did he make?
2. A boy started on a journey at 12 noon and by 1 p.m. had gone  $\frac{3}{4}$  of the distance he had to go. At what time will he finish the journey?
3. Bill. 15 oz. at  $2\frac{1}{2}$ d. per oz.  
 $2\frac{1}{2}$  qt. at 6d. per gallon.  
 $1\frac{3}{4}$  lb. at 10d. per lb.  
 2 gross of articles at  $\frac{1}{4}$ d. per article.
4. Find the weight of  $3\frac{1}{2}$  gallons of liquid if each pint weighs 1.24 lb.

## D

1. A tap which supplies  $5\frac{1}{2}$  gallons each minute takes 18 minutes to fill a cistern. How many pints can the cistern hold?
2. Mrs. Smith earns half a crown per hour and Mrs. Jones two shillings per hour. How much does Mrs. Jones earn while Mrs. Smith is earning thirty shillings?
3. 2 bows can be made from .75 of a yard of ribbon. How many can be made from 6 yards of ribbon?
4. What length of picture rail will be required to go round a room 12 ft. long and 10 ft. 9 in. wide, allowing for two windows each 4 ft. wide and a door 3 ft. 6 in. wide?

